ULTRASOUND WITH OVA1 IS A SENSITIVE PREDICTOR OF OVARIAN MALIGNANCY

Frederick Ueland1, S. Goodrich1, C. Desimone1, L. Seamon1, R. Miller1, I. Podzielinski1, A. Smith2, J. van Nagell, Jr.1, Z. Zhang3

1Gynecologic Oncology, University of Kentucky, Lexington, KY, 2Applied Clinical Intelligence, Bala Cynwyd, PA, 3Pathology, Center for Biomarker Discovery, Johns Hopkins Medical Institutions, Baltimore, MD, USA

**Aims:** Ultrasound (US) is used alone or in combination with other parameters to identify high-risk ovarian tumors; however, scoring systems can be complex. OVA1 is a diagnostic assay used to identify high-risk ovarian tumors. Our objective was to evaluate US alone, or combined with OVA1 or CA125-II, to determine an effective method to identify malignancy.

**Methods:** 344 ovarian tumors underwent US then surgery in a multi-institutional trial involving 27 sites throughout the United States. US score classified tumors as high-risk (solid wall, papillary projections, ascites) or low-risk (unilocular, septate). Biomarkers were analyzed on preoperative serum. Three CA125-II premenopausal cutoff values were compared: >35 U/mL, >67 U/mL, and >200 U/mL. US and biomarkers were combined with an “or” approach. Sensitivity, specificity, predictive values and 95% confidence intervals (CI) were calculated.

**Results:** Surgical findings included 67 malignant and 277 benign tumors. US with OVA1 correctly identified 65/67 malignancies, including 93% (27/29) of malignancies missed by US with CA125-II (200). Sensitivities were lowest for all CA125-II values, even when combined with US. OVA1 alone or with US had the highest NPV but lower specificity and PPV.

<table>
<thead>
<tr>
<th></th>
<th>CA125 200 U/mL</th>
<th>US or CA125 200 U/mL</th>
<th>CA125 67 U/mL</th>
<th>CA125 35 U/mL</th>
<th>US</th>
<th>OVA1</th>
<th>US or OVA1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensitivity</strong></td>
<td>54(42-65)</td>
<td>57(45-68)</td>
<td>64(52-75)</td>
<td>69(57-78)</td>
<td>82(71-89)</td>
<td>91(82-96)</td>
<td>97(90-99)</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>89(85-92)</td>
<td>89(85-92)</td>
<td>76(71-81)</td>
<td>69(63-74)</td>
<td>47(41-53)</td>
<td>46(40-51)</td>
<td>26(21-31)</td>
</tr>
<tr>
<td><strong>PPV (95% CI)</strong></td>
<td>54(42-65)</td>
<td>55(43-66)</td>
<td>39(31-49)</td>
<td>35(27-43)</td>
<td>27(22-34)</td>
<td>29(23-35)</td>
<td>24(19-29)</td>
</tr>
<tr>
<td><strong>NPV (95% CI)</strong></td>
<td>89(85-92)</td>
<td>90(85-93)</td>
<td>90(85-93)</td>
<td>90(85-93)</td>
<td>92(86-95)</td>
<td>96(90-98)</td>
<td>97(90-99)</td>
</tr>
</tbody>
</table>

**Conclusions:** US with OVA1 has high sensitivity and NPV for ovarian malignancy, but lower specificity than US or biomarkers alone.
IS IT RATIONALE TO DO BOWEL SURGERIES AS PART OF CYTOREDUCTIVE SURGERIES FOR ADVANCED OVARIAN CANCER IN OUR SET UP

Gynecologic Oncology, Kidwai Memorial Institute of Oncology, Bangalore, India

Objective: To assess the morbidity and mortality associated with bowel surgeries during optimal cytoreductive surgeries for advanced carcinoma ovary.

Material and methods: Between January 2009 & December 2010, 225 patients underwent cytoreductive surgery for advanced ovarian cancer of which 64(28%) patients had undergone bowel surgery.

Results: The age ranged between 13years & 68years(mean-49years). Sixty four patients underwent bowel resection, single (59 ) or multiple resection (5 ).

68 bowel resections were done . 46 at primary surgeries (35 optimal ,9 suboptimal), 4 during interval surgeries ( 3 opt ,1sub opt ) and 18 during secondary cytoreductive surgeries (14opt, 2 sub opt). 11/64(17.18%) patients had prophylactic stomas.

13(19%) leaks occurred maximum with ileotransverse anastomosis (6; 69%) followed by anterior resections (4; 30%). Four (30.7%) were managed conservatively while re-exploration and secondary stoma was done in the rest 9(69.3%). Duration of stay ranged from 10-30days ( mean -15days) .28/44(63.33%) among primary cytoreductive surgeries completed chemotherapy, rest defaulted.3/4(75%) among interval surgeries completed chemotherapy. 12/16(75%) completed chemotherapy among secondary cytoreductive surgeries. 3/68 (4.4%) died, 2 due to sepsis and 1 due to pulmonary embolism.

Conclusion: Though the present study showed high morbidity rate compared to other studies, mortality was on par with others. The majority of complications were in patients who were malnourished, or with little access to optimal critical care management. The risk-benefit ratio of aggressive surgical cytoreduction must be considered.
NERVE-SPARING OKABAYASHI’S RADICAL HYSTERECTOMY
Shingo Fujii
Kyoto Medical Center, Kyoto, Japan

Radical hysterectomy had been often associated with severe bladder dysfunction and colorectal motility disorders. The uterus, vagina, urinary bladder and rectum are innervated by a motor and sensory autonomic nerve supply, both of sympathetic and parasympathetic origin. The sympathetic fibers come from T11-L2 which form the superior hypogastric plexus. The parasympathetic fibers come from S2, 3 and 4 at the pelvic wall as the pelvic splanchnic nerve. These fibers merge and form the inferior hypogastric plexus which branch to innervate the uterus and the urinary bladder. During radical hysterectomy the hypogastric nerve is often sacrificed when the surgeon divides the uterosacral ligament and rectovaginal ligament, the pelvic splanchnic nerve when the surgeon divides the deep ureter vein in the cardinal ligament, and the bladder branch of the pelvic nerves when the surgeon ligates and divides the paracolpium.

However, the anatomy of the inferior hypogastric plexus encompassing the hypogastric nerve, the pelvic splanchnic nerve and the bladder branch/uterine branch from this plexus is complicated and is not easy to appreciate during the surgery. In order to accomplish nerve-sparing radical hysterectomy, it is absolutely necessary for us to reveal the inferior hypogastric plexus and to transect only the uterine branch from the inferior hypogastric plexus. By this procedure we can preserve the hypogastric nerve, the pelvic splanchnic nerve and the bladder branch from the inferior hypogastric plexus.

Since Ernst Wertheim introduced radical hysterectomy in 1911, several different types of modification had been made on radical hysterectomy. In Western countries, radical hysterectomy classified by Piver, Rutledge and Smith as the class III is believed as the standard procedure of radical hysterectomy. However, in Eastern countries, particularly in Japan, the Okabayashi method is the standard procedure of radical hysterectomy. Both methods separate the anterior leaf of the vesicouterine ligament, but there is a different concept on the separation of the posterior leaf of the vesicouterine ligament. The class III method divides the paravaginal tissues together with the posterior leaf of the vesicouterine ligament including the paracolpium (vaginal blood vessels). In contrast Okabayashi method separates and divides the posterior leaf of the vesicouterine ligament intentionally and then the paracolpium is isolated and divided, respectively. The latter procedure enables the surgeon to separate the paracolpium from the bladder branch from the inferior hypogastric plexus. Because of the lack of this procedure, the radical hysterectomy with the name of Type III is very difficult to reveal the bladder branch as well as the paracolpium and difficult to accomplish nerve-sparing radical hysterectomy. Therefore, if we would like to accomplish nerve-sparing radical hysterectomy, the Okabayashi radical hysterectomy shall become the standard and we need not to have complicated classification of radical hysterectomy. We can simply classify radical hysterectomy into two types: (1) Radical Hysterectomy (2) Nerve-sparing radical hysterectomy.
CORRELATION OF PET-CT AND HISTOPATHOLOGY FOR ASSESSMENT OF LYMPH NODE METASTASIS IN EARLY STAGE CERVICAL CANCER

Bhupesh Kumar Goyal¹, S. Harkirat², B.S. Duggal³, M.J. Jacob⁴, V. Appannagiri³

¹Department of Obstetrics & Gynaecology, Command Hospital (Eastern Command), Kolkata, ²Department of Nuclear Medicine, Command Hospital (Southern Command), Pune, ³Department of Obstetrics & Gynaecology, ⁴Department of Nuclear Medicine, Army Hospital (R&R), New Delhi, India

Background: Accurate assessment of lymph node metastasis in cervical cancer prior to initiation of therapy continues to be a challenge till date. CT scan and MRI have been used for nodal assessment for over two decades with modest results. PET-CT appears to be promising in this regard with its ability to pick up metabolically active disease even in normal sized nodes. This clinicopathologic study assesses the value of PET-CT in predicting nodal metastasis by correlating the PET-CT findings with the histopathology in operable cervical cancer.

Material and methods: Eighty patients with clinically operable cervical cancer underwent PET-CT during the preoperative evaluation followed by radical hysterectomy. Histopathology of pelvic nodes was correlated with PET-CT findings for nodal metastasis. Chi-square test was used as test of significance in the statistical analysis.

Observations: Fifty-two of the 62 PET-CT node negative patients were true negatives whereas 10 were false negative with histological evidence of nodal metastasis. On the other hand, 14 of the 18 PET-CT node positive patients were true positives. Specificity, sensitivity, PPV and NPV of PET-CT in nodal assessment was found to be 92.8, 58.33, 77.7 and 83.8 respectively. 24 patients (30%) with positive pelvic nodes on histopathology were administered adjuvant chemoradiation. PET-CT may help avoid multimodality therapy in early stage cancer and direct appropriate radiation field selection in advanced cases.

Conclusion: PET-CT in evaluation of lymph nodes metastasis in cervical cancer has a high predictive value and may be routinely used in decision-making for the most appropriate therapy for the patient.
HIGH-DOSE RATE INTERSTITIAL BRACHYTHERAPY USING TWO WEEKLY SESSIONS OF 10GY EACH FOR PATIENTS WITH LOCALLY ADVANCED CERVICAL CARCINOMA

Daya Nand Sharma, G. Rath, S. Kumar, S. Thulkar, P. Jula
All India Institute of Medical Sciences, New Delhi, India

Purpose: To evaluate the feasibility of high-dose rate interstitial brachytherapy (HDR-IBT) using two weekly sessions of 10Gy in combination to pelvic external beam radiation therapy (EBRT) for patients with locally advanced cervical carcinoma.

Material and methods: Between the year 2005 and 2007, 42 patients with locally advanced cervical carcinoma (FIGO Stage IIB-IVA), not suitable for intracavitary radiotherapy after completing EBRT, were enrolled in this prospective study. Two weekly sessions of HDR-IBT with 10Gy each were delivered 1 week after pelvic EBRT. Various parameters studied for evaluating the feasibility were procedure-related complications, delayed radiation toxicity, and recurrence-free survival.

Results: FIGO stage distribution of patients was as follows: Stage IIB (10), Stage IIIB (27), and Stage IVA (5). A total of 84 HDR-IBT procedures were performed in these 42 patients. Each session of brachytherapy treatment (from needle insertion to removal of template) was completed in less than 4 hours. Frequency of various procedure-related complications were as follows: hematuria (3.5%), deep vein thrombosis (0%), and visceral puncture (0%). Overall delayed radiation toxicity (Grade III-IV) was 9%. Median followup was 23 months. The 3-y overall survival for all stages was 47% and the 3-y recurrence-free survival for stage IIB, IIIB, and IVA was 67%, 34%, and 20%, respectively.

Conclusion: Our clinical results have shown that weekly HDR-IBT schedule (10Gy×2) is associated with low toxicity, decent local control, and survival rates thereby proving its clinical feasibility.
CONCURRENT CHEMORADIATION (CCRT) VS RADIOTHERAPY (RT) ALONE IN LOCALLY ADVANCED CARCINOMA CERVIX: COMPARISON OF RESULTS AND SIDE EFFECTS

Bijal Patel, P.S. Dave, K.S. Dave, A.D. Desai, M.H. Mankad, A.S. Chauhan

Department of Gynecologic Oncology, Gujarat Cancer & Research Institute, Ahmedabad, India

Background: In India, > 70% of cervical cancer patients are diagnosed in advanced stage. Role of radiotherapy to cure locally advanced cervical cancer is limited by the size & stage of the tumor. CCRT may interact to increase the killing of tumors cells without delaying the course of RT and improves survival.

Aim: This randomized prospective study is done to evaluate the safety & improvement in the survival of the patients with locally advanced cervical carcinoma.

Methods: 113 patients with squamous cell carcinoma of the cervix were included from April 2004 to March 2007: 59 in arm A (RT) and 54 in arm B (CCRT with cisplatin 40 mg/m² weekly) after examination and investigations at Gujarat Cancer & Research Institute, Ahmedabad.

Results: In arm A 49(83.05%) and in arm B 46(85.19%) patients completed the scheduled treatment and evaluated. 12(24.49%) & 20(43.48%) patients were stage II arm A and B respectively and rest were stage III. Acute toxicities were transient. Complete response was 87.76% in arm A and 93.48% in arm B. 28 patients (57.14%) in arm A and 33(71.74%) in arm B had > 6 month of follow up (median - 31.25 months for arm A, 37.64 for arm B). Three year disease free survival was 55% for arm A and 82% for arm B. Recurrence was noted in 9(18.37%) patients in arm A and 5(10.87%) in arm B.

Conclusion: CCRT using weekly cisplatin is well tolerated and superior regimen than RT alone for locally advanced cervical cancer.
IMPLEMENTATION AND BENEFITS OF HPV BASED PRIMARY SCREENING

Partha Basu

Department of Gynecological Oncology, Chittaranjan National Cancer Institute, Kolkata, India

The strength of association between oncogenic Human Papilloma Virus (HPV) and cervical cancer, established through several cross-sectional as well as prospective studies, led to recognition of oncogenic HPV infection as the ‘necessary’ cause of cervical cancer. This unveiled a novel option of using oncogenic HPV detection as an alternative screening test. The most widely evaluated HPV detection technology till date is Hybrid Capture 2 (HC 2)® that detects the DNA of 13 most common oncogenic HPV types in cervical cells. Detection of HPV DNA in cervical scraping of women beyond 30 years of age indicates persistent HPV infection and these women are at highest risk of cervical cancer. This is the rationale for using HC 2 test to screen women of 30 years of age or older. Several observational studies, six large completed randomized controlled trials and at least one demonstration HPV screening program has provided sufficient evidences to recommend HC 2 as a primary detection strategy for cervical cancer precursors. The test has higher sensitivity than the Pap smear even in low and medium resource settings, requires less technical resources, is semi-automated and unlike cytology its interpretation is not subjective. Several different algorithms have been suggested for further diagnostic evaluation of the HC 2 positive women. They can have Pap smear or in the absence of reliable cytology may be directly referred for colposcopy. In a medium resource country like India too frequent screening is not feasible and a national program may aim at once in a lifetime screening to begin with. In such context a highly sensitive test like HC 2 may be advantageous. There is evidence that cryotherapy of the HC 2 positive women (screen and treat strategy) can substantially reduce the risk of subsequent development of high grade precursor lesions. Such algorithm may be suitable for situations where organizing colposcopy and biopsy facilities may not be practicable. A less expensive and low technology variety of HPV DNA test (CareHPV®) using the same principle as HC 2 is in the pipeline. The test accuracy of CareHPV has been found to be comparable to HC 2 in the initial evaluation studies.
USEFULNESS OF SKOV3-AF2 CELL LINE IN EXPERIMENTAL CELLULAR TREATMENTS FOR OVARIAN CANCER

S.B. Ingersoll1,2, Sarfraz Ahmad1,2,2, G.P. Stoltzfus1, S. Patel1, M.J. Radi1, N.A. Ciomek1,2, N.J. Finkler1,2,3, J.R. Edwards3,4, R.W. Holloway1,2,3

1Gynecologic Oncology, Florida Hospital Cancer Institute, 2College of Medicine, Florida State University, 3College of Medicine, University of Central Florida, Orlando, 4Lifeforce Cryobanks, Altamonte Springs, FL, USA

Objectives: To functionally characterize a fluorescent highly tumorigenic ovarian cancer line to test cellular therapy in combination with cytokines or chemotherapies in experimental models.

Methods: A fluorescent highly tumorigenic sub-line (SKOV3-AF2) was derived from the SKOV3-RFP ovarian cancer cell line. Peripheral blood mononuclear cells (PBMC)-mediated cytotoxicity of SKOV3-AF2 in the presence of interleukin-2 and interferonα-2b was assayed by lactate dehydrogenase release. SKOV3-AF2 sensitivity to polyethylene glycol (PEG)-IFNα-2b and IL-2 was assayed in a xenograph mouse model. Tumor necrosis and tumor infiltrating lymphocytes in solid tumors was determined by histopathology. Gene expression analyses of E-cadherin and Cysteine-rich 61 (CCN1) was performed by RT-PCR.

Results: SKOV3-AF2 exhibits increased cytotoxicity (up to 70%), mediated by PBMC, IL-2, and IFNα-2b compared to parental SKOV3-RFP cells. SKOV3-AF2 cells are more tumorigenic in vivo as indicated by tumor incidence, time-to-sacrifice, tumor weight, and ascitic fluid. SKOV3-AF2 tumor growth was inhibited by PEG-IFNα-2b but not low-dose IL-2. Histopathology revealed that the tumors consisted of poorly differentiated surface epithelial carcinoma. SKOV3-RFP and SKOV3-AF2 cell lines as well as -AF2 tumors expressed E-cadherin. SKOV3-AF2-derived tumors expressed CCN1; however, there was no correlation between expression level and tumor size or time-to-sacrifice. SKOV3-AF2 cells did not express CCN1.

Conclusions: Characterization of SKOV3-AF2 revealed that it is more susceptible to PBMC-mediated cytotoxicity than SKOV3-RFP, highly tumorigenic in a xenograft model, and -AF2 tumors express genes that promote aggressive phenotype. Collectively, data suggests that SKOV3-AF2 will be a useful tool to test cellular therapy for the treatment of ovarian cancer utilizing experimental models.
INHIBITION OF OVARIAN CANCER CELL GROWTH BY AN NSAID, TOLFENAMIC ACID

U.T. Sankpal¹, S.B. Ingersoll²,³, Sarfraz Ahmad²,³,⁴, S. Kaja¹, J.R. Edwards⁴,⁵, R.W. Holloway²,³,⁴, M. Abdelrahim¹,³,⁴, R. Basha¹,³,⁴

¹Cancer Research Institute, M.D. Anderson Cancer Center Orlando, ²Gynecologic Oncology, Florida Hospital Cancer Institute, ³College of Medicine, Florida State University, ⁴College of Medicine, University of Central Florida, Orlando, ⁵Lifeforce Cryobanks, Altamonte Springs, FL, USA

Introduction: Aberrant expression of hepatocyte growth factor (HGF) and its receptor c-Met are associated with aggressive disease and poor prognosis in a variety of malignancies including ovarian cancer (OC). Specificity protein (Sp) transcription factors have high relevance in the signaling cascade associated with c-Met activation. Tolfenamic acid (TA), an NSAID, is known to induce degradation of Sp proteins and we tested anti-OC activity of TA using SKOV3-derived cells and ES2 cells.

Methods: Cells were treated with 25/50/100 µM TA and cell viability assay was measured at 24, 48, 72 h. Cell lysates were prepared following 48 h treatment (50µM) and evaluated expression of Sp proteins (Sp1/Sp3/Sp4), c-Met, survivin, Bcl2, c-PARP through Western blots. Cell cycle distribution and apoptosis were analyzed using flow cytometry.

Results: TA significantly inhibited growth of SKOV3-(AF1-3) and ES2 cells in a dose- and time-dependent manner. Expression of Sp proteins, c-Met, survivin, Bcl2 was significantly decreased while c-PARP expression was significantly increased following TA treatment. TA substantially increased apoptotic fraction (Annexin V positive) in both cell lines and induced G0/G1 cell cycle arrest.

Conclusions: These results show that TA has a profound inhibitory effect on OC cell proliferation, induces apoptosis and cell cycle arrest. Apart from its tumor suppressant effects, TA can also enhance the tumor response to radiotherapy due its inhibitory actions on survivin expression. Despite improvements in detection/diagnosis, the survival prognosis of OC patients remains poor and the current study represents a novel strategy for suppressing OC cells growth and enhancing tumor response to radiotherapy.
VINCRISTINE TOXICITY EFFECT ON CEREBELLUM FORMATION OF MICE AT DURING PREGNANCY

Sajjad Hejazi\(^1\), D. Mohajeri\(^2\)

\(^1\)Department of Anatomy, Faculty of Veterinary Medicine, \(^2\)Department of Pathobiology, Faculty of Veterinary Medicine, Islamic Azad University, Tabriz Branch, Tabriz, Iran

**Introduction:** Vincristine is an alkaloid that was administered for inhibition of division of malignant tumor cells. Occurring of malformation in embryos was proved in pregnant mothers. However, there was no adequate information about its toxic effect in newborn cerebellum structures. Will considering to Blood Brain Barrier passing and cytotoxic effect, rate of destructive effects to formation of cerebellum in newborns was demonstrated.

**Methods:** In this study 20 female Mice were pregnant divided as two groups (control and experimental) accidentally. The experimental group received 3mg/kg in days 10 and 15 pregnancy (I.P). In end of pregnancy duration 48 newborns (control and experimental groups) were selected for histotechnique process and H&E staining then in continues considered under light microscope. It was used from T-test and SPSS software for analyzing data obtaining from quantities parameters.

**Results:** In base of morphologic observations performing , It was obtained significant decrease in weight, skull size and newborn growth (P < 0.001). In base of microscopic observations , cerebellum is seen such as primary formation. White matter of cerebellum was seen with decreasing in compaction of neuralgia cells accompany with deficiency in dismyelination of nervous fibers. Occurring of apoptosis was seen in epithelial cells of choroid plexus and in white matter neuralgia cells.

**Conclusions:** In base of obtaining resultants we can conclude that effects of anti-mitosis drugs can include inhibitive activity of drug to difference and proliferation of cortical cells of cerebellum and its formation ultimately and it causes to support of apoptosis induction in choroid plexus cells and cerebellum.
ROLE OF VASCULAR ENDOTHELIAL GROWTH FACTOR RECEPTORS- VEGFR-1, VEGFR-2 IN PATHO-PHYSIOLOGY OF PREGNANCY COMPLICATED BY HYPERTENSIVE DISORDERS

Richa Tripathi1,2, G. Rath2, R. Ralhan3, S. Saxena4, S. Salhan5

1Institute of Cytology and Preventive Oncology, Noida, 2Anatomy, Vardhman Mahavir Medical College & Safdarjung Hospital, 3Biochemistry, All India Institute of Medical Sciences, 4Institute of Pathology, 5Obstetrics and Gynecology, Safdarjung Hospital, New Delhi, India

There is a paucity of information on the receptors of VEGF- VEGFR-1 and VEGFR-2 concentrations in different sub-groups of hypertensive disorders during pregnancy. In this cross-sectional study, the placental expression of VEGFR-1 and VEGFR-2 along with serum concentration of sVEGFR-1 and sVEGFR-2 were evaluated in Gestational hypertension (GH), Preeclampsia (PE), Eclampsia and control patients (n=90+180+90+180) by immunohistochemistry and ELISA in order to envisage the association of both receptors in the pathogenesis of these hypertensive disorders. The significant up-regulation of VEGFR-1 and down-regulation of VEGFR-2 were observed in all placental cells of study groups (GH, p=0.0001, 0.0002; PE, p=0.0001, 0.0003; Eclampsia, p=0.0001, 0.0001) as compared to control group. The serum sVEGFR-1 concentrations were found to be significantly elevated in the study groups as the severity of disease increases from GH to eclampsia (median- 24076 pg/mL; 42000 pg/mL) as compared to controls (median-3360 pg/ml) whereas, the serum sVEGFR-2 levels were found to be significantly decreased from GH to eclampsia (median-5196 pg/mL; 3972 pg/mL) groups as compared to control groups (median-7417 pg/ml). We also observed higher sensitivity, specificity for sVEGFR-1 and sVEGFR-2 in differentiating GH (75%, 75%; 50.8%, 50%), PE (89.1%, 89.1%; 63%, 63%) and eclampsia (91.6%, 91.6%; 65%, 66.6%) respectively from the control pregnancies. This up-regulation of VEGFR-1, sVEGFR-1 and down-regulation of VEGFR-2, sVEGFR-2 concentrations in different study groups may be due to hypoxia showing their intimate involvement in the etiopathogenesis of these disorders. Thus, sVEGFR-1 and sVEGFR-2 may be suggested as potential clinical markers in differentiating pregnancies complicated by hypertensive disorders.
METFORMIN PROMOTES PROGESTERONE RECEPTOR EXPRESSION VIA INHIBITION OF MAMMALIAN TARGET OF RAPAMYCIN (MTOR) IN ENDOMETRIAL CANCER CELLS

Yan Zhang
Department of Obstetrics and Gynecology, Peking University First Hospital, Beijing, China

Progesterone has been used in the hormonal treatment of endometrial cancer (EC) for many years, but the response rates are unsatisfying. The down-regulated progesterone receptor (PR) is the main reason for treatment failure. The insulin-like growth factor (IGF) system is related to EC risk, and IGF-I can inhibit PR transcription in breast cancer. Recent evidence suggests that metformin-combined oral contraceptives may reverse progesterone-resistant atypical endometrial hyperplasia, but the mechanism is unclear. We attempt to investigate the interaction of metformin, PR and IGF-II expression, and identify whether metformin can enhance the antitumor effect of medroxyprogesterone acetate (MPA) using Ishikawa and HEC-1B EC cell lines. We found that both IGF-I and IGF-II inhibits PR A/B mRNA and protein expression, whereas metformin markedly promotes PR expression. In parallel, IGF-II increases phosphorylation of AKT and p70S6K, while metformin increases AMPK phosphorylation and decreases p70S6K phosphorylation. The effects of metformin on PR A/B and p70S6K are partially reversed by an AMPK inhibitor. Furthermore, metformin synergistically antiproliferates MPA in two cell lines, with the peak synergy occurring with 10 µM metformin combined with 1 µM MPA (Cl=0.20448 for Ishikawa, Cl=0.12801 for HEC-1B). Our results demonstrate that metformin promotes PR expression, which can be inhibited by overexpressed IGF-II in EC. This effect is partially mediated through activating AMPK followed by inhibiting the overactivated mTOR pathway.
THE VALUE OF GSK-3B AND P-CADHERIN EXPRESSION IN BREAST CARCINOMA: CORRELATION WITH PROGNOSTIC FACTORS

Anna Maria Athanassiadou, A. Tsipis, E. Patsouris, M. Gonidi, S. Dimopoulos, P. Athanassiadou

Cytology Unit of Pathology Department, Medical School, University of Athens, Athens, Greece

Introduction: Glycogen synthase kinase 3B (GSK-3B) is an essential element of the apoptotic signaling cascade induced by oxidative stress. P-cadherin is frequently over-expressed in invasive breast carcinomas and has been reported to be an enhancer of migration and invasion.

Aim: The aim of this study was to evaluate the expression of GSK-3B and P-cadherin in breast carcinomas and to correlate the results with classical prognostic factors.

Methods: An immunocytochemical method of Avidin Biotin complex was applied with the use of anti GSK-3B and anti P-cadherin antibodies.

Results: GSK-3B was positive expressed in 57% of the tumors, and P-cadherin in 26.7%. Univariate statistical analysis shown increased expression of GSK-3B was correlated with stage III tumors (p< 0,022), poorly differentiated carcinomas (p< 0,0001), nodal metastasis (p=0,003) and negative ER and PR. P-cadherin positive expression was associated with stage III (p< 0,0001), poorly differentiated tumours (p< 0,0001), nodal status (p=0,001) and positive p53 and Ki-67 expression (p=0,005 and p=0,018 respectively).

Conclusions: Our data shown that GSK-3B and P-cadherin are markers of poor prognosis for breast carcinoma.
BREAST CANCER DURING PREGNANCY: A THERAPEUTIC DILEMA!

Rashmi Bagga¹, A. Keepanasseril¹, G. Singh², A. Rjawanshi³, R. Nijhawan³, A. Das⁴, K. Joshi⁴

¹Obstetrics & Gynecology, ²General Surgery, ³Cytology & Gynecologic Pathology, ⁴Histopathology, Postgraduate Institute of Medical Education & Research, Chandigarh, India

Background: About 7-15% of the pre-menopausal cases of breast cancer are diagnosed during pregnancy. This is often perceived as a situation that puts the life of the mother in conflict with that of her fetus. Chemotherapy may be required in the neoadjuvant or adjuvant situation and it is a difficult decision for women to accept chemotherapy during pregnancy. We report two women with breast cancer diagnosed during pregnancy.

Case I: A 30 year primigravida presented at 8 weeks gestation with a lump in her left breast. An FNAC revealed ductal carcinoma (T2N1M0). She underwent total mastectomy with axillary clearance followed by 8 cycles of chemotherapy (FEC x 4; Docetaxel x 4). She had pre-labour rupture of membranes at 38 weeks and delivered a boy baby (2.3 kg) after labour augmentation. Her postpartum period was uneventful except for infection in the episiotomy. She is under remission and the baby is healthy at 28 months of age.

Case II: A 26 year lady was noted to have a hard lump in the left breast at 19 weeks gestation. An FNAC revealed infiltrating ductal carcinoma (T3N0M0). Since she was keen on breast conservation, she received 4 cycles of neoadjuvant chemotherapy (FEC). She had labour onset at 37 weeks and delivered a healthy boy baby (2.9 kg) two weeks ago.

Conclusion: Breast examination as a part of antenatal care may detect lumps which need evaluation to exclude malignancy. A multidisciplinary team of surgical & medical oncologist and obstetrician is needed to manage this problem.
ORAL THERAPY WITH CAPECITABINE (CAPE) AND VINORELBINE (NBV) FOR PATIENTS WITH METASTATIC BREAST CANCER

Assia Bensalem¹, S. Ghoubiche¹, M. Merrouche¹, K. Bouzid²

¹CHU Dr Benbadis, Constantine, ²Centre Pierre et Marie Curie, Algiers, Algeria

Background: There is continued interest in oral agents for the treatment of MBC. The chemotherapy (CT) combination of NVB and CAPE has shown activity and good tolerability in MBC. We report the latest results from a study of NVB and CAPE in MBC after a median follow-up of 14 months.

Methods: Eligible pts had MBC, 0-2 prior chemo regimens. Pts had RECIST- measurable disease or CA 15-3 ≥ 2X ULN. Pts received NVB at 80 mg/m² dose (following a first cycle at 60 mg/m²) D1 and D8 every 3 weeks and CAPE 1,500 mg po bid days 1-14, cycles repeated every 21d. Doses were not adjusted for BSA.

Results: 32 pts enrolled between January 2009 and December 2009. median age: 53.5 years; prior (neo)adjuvant CT 54%; visceral involvement 82%; >2 metastatic sites 34%. Toxicity (tox) was mild, with no treatment-related deaths. Grade3/4 adverse events per patient: neutropenia 71%, hand-foot syndrome 20%, diarrhea 16%, vomiting 12%, asthenia 8%, febrile neutropenia 8% (0.5% of cycles), infection 6%, Grade 4 tox included thrombosis/embolism (1 pt). Efficacy (n=23 evaluable pts): objective response rate (RECIST) 77%, CR 11%, PR 66%, SD 18%, PD 5%, disease control (CR+PR+ SD ≥6 months) 93%; median duration of response was 09 months and median progression-free survival was 12 months. Overall survival results are not mature yet. 26 pts are alive and 14 pts are still receiving full study treatment

Conclusions: This oral regimen of NVB and CAPE is active for MBC. It is feasible and well tolerated by patients.
BRAIN METASTASIS OF BREAST CANCER: CLINICAL & PATHOLOGICAL PROFILE
Hanene Djedi1, L. Debbah1, I. Boulouh1, K. Bouzid2
1Department of Medical Oncology Chu Annaba, Annaba, 2Department of Medical Oncology Centre Pierre et Marie Curie, Algiers, Algeria

Introduction: Breast cancer is the second most common cause of brain metastases after lung cancer. However, central nervous system (CNS) metastases still less common than bone or visceral metastases.

Material and methods: We report results of a retrospective analysis including 15 breast cancer patients treated in our department from Jan 09 through June 10 for symptomatic brain metastasis (diagnosed on CT scan or MRI). Endocrine receptor (ER and PgR) & HER2/neu status were assessed routinely in all pts by immunohistochemistry.

Aim of the study: to investigate factors affecting the time to development and prognosis of brain metastases in breast cancer patients.

Results: All patients (15 pts) were suffering from histological proven metastatic breast cancer. Median age at primary diagnosis was 43 y (28 - 62 y). Median KPS was 70% (40-90%). Four pts had stage II disease at diagnosis, 6 pts stage III and 5 pts were stage IV. Median interval between diagnosis and brain metastasis "TTCP" was 38 months. 20% of cases had no extracranial metastatic sites. 14 pts received a WBRT and one patient had a surgical excision. Only 2 pts were chemo-naives when brain metastasis detected, all others received anthracycline or taxane based regimen in adjuvant or palliative setting.

Conclusion: Identify subgroups with potential risk factors for development of brain metastasis (young age, node positive tumours, HER2/neu overexpression and individuals with aggressive tumour phenotypes) might help to investigate prophylactic treatments in future.
7-YEAR SURVIVAL WITH ONCOGYNACEOLOGICAL QUADRUPPLICITY: A CASE REPORT

Daniel Driak¹, B. Sehnal¹, J. Zahumensky¹, E. Kmonickova²

¹Department of Gynaecology and Obstetrics, ²Institute of Radiation Oncology, First Faculty of Medicine and University Hospital Bulovka, Charles University, Prague, Czech Republic

Background and aims: Multiple primary malignancy is considered a rare phenomenon in human oncology, however an even more serious task relates to the complex surgical-therapeutical management and burden for both patient and health care provider. The most common co-incidences with gynaecological tumours are malignancies of gastro-intestinal tract. The most common oncogynaecological duplicities are breast and endometrial cancer, and breast and cervical cancer. The aim of the study was to describe the unique case of a 54-year old woman with oncogynaecological quadruplicity surviving more than 7 years since diagnosis.

Methods: Case report.

Results: In 2003, we diagnosed primary bilateral breast, endometrial and ovarian cancer in a 54-year old patient. She underwent numerous surgeries with adjuvant chemo-radiotherapy and hormonal therapy. At present, she has been dispensarised for more than 7 years without any signs of recurrence.

Conclusions: An extraordinarily unique case of a 54-year old woman with oncogynaecological quadruplicity surviving more than 7 years since diagnosis is presented.
EVALUATION OF A MODIFIED TRIPLE TEST- A CLINICAL TESTIMONY

Rajendra Kumar Karwasra, S. Parshad, B. Arora, A. Bansal

Surgery and Surgical Oncology, Pt. B.D.Sharma University of Health Sciences, Rohtak, India

Introduction: Breast lumps may not be diagnosed on clinical examination alone and a battery of investigative procedures is required for definitive diagnosis. Triple test (Clinical examination, Mammography and FNAC) is well accepted but mammography is not routinely available. Ultrasonographic examination of breast which is readily available and has been found to be sensitive was used in place of mammography and this modified triple test was evaluated in the present study.

Patients and methods: A prospective study to evaluate the diagnostic efficacy of clinical examination, ultrasonography and FNAC individually and in combination for the diagnosis of palpable breast lump was conducted in the department of surgery and surgical oncology, Pt. B. D. Sharma PGIMS, during the time period of 2007-2009. Sonographic investigation was performed using a linear probe 5-12 MHz. In all cases FNAC was done using fine 22 to 23 gauge needle of 2.5-4 cm for aspiration. All cases were operated and correlated histopathologically

Results: Accuracy of Clinical examination, FNAC, and ultrasound in the diagnosis of Benign breast lump were 88.0%, 93.7%, and 94% respect. Sensitivity and specificity of modified triple test (C.E., USG, and FNAC) in comparison to histopathology in the diagnosis of breast carcinoma was 100% and 96.15% respectively.

Conclusion: Modified triple test is cost-effective, widely applicable and a reliable diagnostic approach in palpable breast lump.
FACTORs ASSOCIATED WITH BETTER SURVIVAL AFTER SURGERy IN METASTATIC BREAST CANCer PATIENTs

Surgical Oncology, Amrita Institute Of Medical Sciences, Kochi, India

Aim: Aim of our study is to find out the group of metastatic breast cancer (MBC) patients in whom maximum benefit can be achieved with surgery of primary.

Methods: We retrospectively reviewed MBC patients operated from 2004 to 2009 at our centre. We collected the data regarding patient factors (age, menstrual status), tumor factors (ER status, Her-2 neustatus, tumor size, pNstatus, number of metastases, metastatic site and level of suspicion of metastatic disease) and treatment factors (type of chemotherapy and radiation therapy). We have analyzed the survival using Kaplan-meier test using spss 11.0 software.

Results: 48 patients of MBC underwent surgery of primary in study period. Mean age was 52 years. Mean period of follow up is 23 months. Mean overall survival (OS) for patients with age < 60 yr and >60 year is 35 months and 29 months respectively. OS of the ER positive patients is 44 months and for ER negative is 33 months. For patients with single metastatic lesion, OS is 47 months and for those with multiple metastatic sites it is 35 months. Patients who had low radiological level of suspicion of metastatic disease / are diagnosed clinically fared better than those who had histologically confirmed metastases/high level of radiological suspicion.(46 months Vs 34 months).

Conclusions: Even though none of the factors reached the statistical level of significance there is a trend towards better survival in patients with age < 60yr, ER+, HER-2 Neu-, single metastatic lesion, bone and non-regional nodes metastases, radiation to primary site and low level of suspicion of metastases.
NUTRITIONAL AND HEMATOLOGICAL EFFECTS OF DIETARY SUPPLEMENTATION WITH AGARICUS SYLVATICUS IN BREAST CANCER PATIENTS UNDERGOING CHEMOTHERAPY

Maria Rita Garbi Novaes¹, L.C.G. Novaes², F. Valadares³, Nutritional Pharmacology

¹Pharmacology, ²Medicine, ³Nutrition, Brasilia University, Brasilia, Brazil

Introduction: Agaricus sylvaticus fungus has been used for its pharmacological and nutritional effects when taken along with conventional cancer treatments.

Objective: Evaluate the nutritional and hematological effects of a dietary supplementation with Agaricus sylvaticus in breast cancer patients undergoing chemotherapy.

Methods: A randomized, placebo-controlled, double-blind clinical trial.

Design: Sample consisting of 46 women with breast cancer at stages II (61.5%) and III (38.5%) during chemotherapy, average age 52.41±5.94 years, divided in two groups: placebo (n = 23) and experimental (n = 23). The placebo group received starch only, orally, for six months. The experimental group was supplemented with Agaricus sylvaticus fungus (2.1g/day), orally, 3 times daily for six months. The trial consisted of Nutritional assessment, evolution of the disease, gastrointestinal symptoms, duration and response to chemotherapy, prognosis (death or discharge), tumor size (observed by mammography) and body weight. The results were analyzed for average comparison tests of (T-student) and variance comparison (test F).

Results: It was observed reduction of vomiting (30%), nausea (20%), diarrhea (10%) and constipation (10%) in the group supplemented with mushroom and there were alterations in hematocrit (from 35.32 ± 4.73 to 39.02 ± 5.80. P = 0.06), hemoglobin (from 11.68 ± 1.66 to 12.77 ± 1.89, P = 0.09), platelets (from 4.1 ± 0.56 to 4.81 ± 0.83, P = 0.03), MCH (from 29.70±3.63 to 36.90±2.90, P = 0.05), MCV (from 84.80 ± 7.81 to 86.50±4.19, P = 0.2) when compared with the placebo group.

Conclusions: Breast cancer can experience significant improvement if supplemented with Agaricus sylvaticus fungus.
IMMEDIATE BREAST RECONSTRUCTION - IS IT RELEVANT TO INDIAN SCENARIO?

Sanjeev Parshad, P. Sandhu, R.K. Karwasra

Surgery and Surgical Oncology, Pt. B.D.Sharma University of Health Sciences, Rohtak, India

Introduction: Immediate breast reconstruction following MRM is a well accepted option but is not commonly offered in India. The purpose of present study was to evaluate the technique, morbidity and psychological outcome of immediate breast reconstruction after MRM.

Materials and methods: 40 patients of operable carcinoma breast undergoing MRM were compared with patients undergoing MRM followed by immediate breast reconstruction using autologous tissue. Their psychological outcome was evaluated through body image scale consisting of 8 items which was in turn rated on a five point Likert scale.

Results: The study group consisting of 20 patients who underwent MRM along with immediate breast reconstruction with autologous tissue either TRAM or LD flap. The patients were evaluated in terms of technical issues, morbidity and clinical outcome and were compared with 20 patients of control group who underwent MRM only. In the post operative period, a total complication rate of 35% was noted in study group as compared to 10% of control group. In study group, 95% of the patients were satisfied with the body image; out of these, 20% patients were highly satisfied and 75% were moderately satisfied. 5% were not satisfied with the surgical results.

Conclusion: Immediate breast reconstruction following MRM is a valid option and gives a higher level of patient satisfaction. The need of immediate reconstruction following MRM is real and relevant to Indian scenario. A change in the mindset of the surgeon is required to incorporate this into clinical practice.
DO PATIENTS WITH BREAST CANCER GET EFFICACY OF TAMOXIFEN ON THE CERVIX AND UTERUS?

Nassim Sadeghi\textsuperscript{1}, M. Karimi Zarchi\textsuperscript{2}

\textsuperscript{1}The Iranian Society of Prevention, Treatment and Educational Medicine, \textsuperscript{2}Shahid Sadoughi University, Yazd, Iran

**Objective:** The aim of this study was to evaluate the effects of tamoxifen on the genital tract with particular attention to the uterus and cervix.

**Methods:** We investigated the relationship between tamoxifen and cervical or uterine cancer in Iran, reviewing all the studies performed by the Vali-Asr Gynecology Oncology Clinic in Tehran. In addition, the available data on Medline from 1980 until 2009 were reviewed.

**Results:** A total of 182 articles showed associations with gynecologic malignancies. Although as many as 121 referred to links between the drug and endometrial abnormalities (polyps or cancers), 55 articles studied the relationship with changes of pap smears, four of which indicated isolated cervical metastasis followed tamoxifen use in patients with breast cancer.

**Conclusion:** In spite of the significant relationship between tamoxifen and endometrial cancers, cervix is rarely involved in breast cancer patients. To rule out genital tract malignancy, therefore, we must have an annual pelvic exam, pap smear and early endometrial with endocervical curettage for tamoxifen users following a breast cancer in those with abnormal uterine bleeding or persistent vaginal discharge.
HOPE IN LIFE AFTER BREAST CANCER TREATMENT: A QUALITATIVE STUDY

Akram Sajadian1, L. Heydari2, M. Moradi3

1Quality of Life Research Group, 2Breast Cancer Center, 3Iranian Center for Breast Cancer, Tehran, Iran

Background: The experience of hope in patients with breast cancer may vary in different cultures. The objective of this qualitative research was to understand the meaning of hope and concerns of Iranian women with breast cancer.

Methods: This narrative study used in-depth interviews and was conducted at a breast cancer clinic in Tehran, Iran. The sample consisted of 34 women with breast cancer selected on availability and consent. The interviews were tape-recorded and were transcribed to elucidate the major themes encountered in the interviews.

Results: The mean age of patients was 49.2 (SD= 19.2), 77% were married, 24% were widowed or divorced and 73% were housewife. Nineteen participants underwent radical mastectomy and 15 patients received breast-conserving surgery. The meaning of hope is essential and dynamic life force that results in the necessary energy for life. Three major themes emerged from the analysis. 1- Hope resources were: family support, physician, friends and other patients. 2- Happiness resources for hope were: God, physician, husband, children and friends. 3- Hoping places were: religious places, Cemetery and at home near their children.

Conclusions: The study results are consistent with the most research findings on the topic and suggest that the faith in God is very important in breast cancer hope. Breast cancer patients need their physician’s attention and support and it seems that patients’ spiritual beliefs might be considered as extra resources to patients’ hope and important to overcome their problems.
SELF REPORTED BREAST CANCER AWARENESS AMONG WOMEN IN SOUTERN IRAN

Z. Sarraf¹, Mohammad Shahbazi², N. Falsafi³, M. Azevedo⁴, J. Maddirala⁵

¹Obstetrics & Gynecology - Division of Gynecology-Oncology, Shiraz University of Medical Sciences, Shiraz, Iran, ²Department of Behavioral and Environmental Health, Jackson State University, Brandon, MS, USA, ³Shiraz University of Medical Sciences, Shiraz, Iran, ⁴Epidemiology, ⁵Health Policy and Management, Jackson State University, Jackson, MS, USA

Background: Breast cancer remains one of the challenging public health issues globally. The study undertaken aimed at women's self-reported knowledge breast cancer and breast cancer examination in Shiraz, Iran.

Methods: A trained nurse interviewer administered a questionnaire to women visiting ob/gyn clinics in Shiraz. Data were collected via a structured questionnaire with questions on demographic status, history of personal and family breast-related issues; knowledge about breast cancer such as its symptoms, and the practice of breast self-examination. A trained female nurse interviewed each respondent. Analysis included descriptive statistics and the Chi-squared test where necessary.

Results: 104 women with ages ranging between 21 through 73 participated in this study. 85.6 percent were married and 25% employed. About 70% have heard of breast cancer; 17% reported history of self breast cancer, and 21% reported family history of the same. The answers for the common symptoms of breast cancer varied. However, most participants (57.8%) expressed that the best way of detecting a breast cancer were self breast examination and examination by a physician. 75% of the participants believed that breast cancer was treatable while 19% reported that they did not know how to perform self-breast examination.

Conclusion: The result provides imperative information that could be used for designing breast cancer-related educational programs both for public and the physicians that would increase awareness and hence increase preventive practices that would lead to early detection of the breast cancer.
SENTINEL LYMPH NODE DETECTION IN PATIENTS WITH CERVICAL CANCER OF UTERUS

Bijaya Chandra Acharya
Surgical Oncology, BPKMCH, Bharatpur, Nepal

Introduction: Cervical cancer is the seventh most common cancer, overall, and the third most common in women. Lymph node status is the most important independent prognostic factor in early stage cervical cancer of uterus. Intraoperative lymphatic mapping and sentinel lymph node (SLN) detection have been increasingly evaluated in the treatment of a variety of solid tumors, particularly breast cancer and cutaneous melanoma.

Objective: We investigated to evaluate the feasibility of these procedures in patients undergoing radical hysterectomy with pelvic lymphadenectomy for treatment of early cervical cancer.

Patients and methods: Total 30 patients of histologically diagnosed FIGO stage IA to IIA carcinoma of uterine cervix were enrolled to this procedure that were scheduled to go radical abdominal hysterectomy and pelvic lymphadenectomy by injecting Patent Blue Dye in cervix.

Result: A total of 60 SLNs (mean 2.5,) were detected in 24 patients with detection rate of 80%. Bilateral SLNs were detected in 70.1% of cases. SLNs were identified in obturator and external iliac areas in 50% and 31.7%, respectively; no SLNs were discovered in the common iliac region.7 patients (23.3%) had lymph node metastases; one of these had false negative SLN. The false negative rate and negative predictive value were 14.3% and 94.4%, respectively. SLN detection procedure with blue dye technique is a feasible procedure in cervical cancer of uterus.

Conclusion: Patent blue dye is cheap, safe, and effective tracer to detect sentinel node in carcinoma of cervix.
PSAMMOMA BODIES IN CERVICAL SMEARS OF 2 SISTERS; ONE KNOWN TO HAVE OSSEOUS HETEROPLASIA

Tolu Adedipe, T. Cartwright-Terry, J. Kirwan
Liverpool Women's Hospital, Liverpool, UK

Miss A, 38 yr old woman was referred with a routine cervical smear showing the presence of psammoma bodies. She has a history of osseous heteroplasia. Her other surgical history included a cholecystectomy performed within a few months of presentation. Miss B, her 41 yr old sister also gave a similar history of psammoma bodies on a cervical smear. She has no significant past medical history or family history. A colposcopic assessment, a pelvic ultrasound scan, pipelle endometrial biopsy and repeat cervical smear had been normal for both women. They are currently being followed up as per local protocol.

The incidence of psammoma bodies (PBs) in cervical smears is quoted as 0.001%. However there is no reported incidence of psammoma bodies on cervical smears in two sisters in literature. Osseous heteroplasia is a rare genetic condition in which the body makes extra bone in locations where bone should not form and clinically presents as cutaneous ossifications in childhood. The presence of PBs in cervical smears is a rare finding and is associated with malignant serous epithelial ovarian tumours usually in postmenopausal patients with unexplained vaginal bleeding and atypical cells. Management should include a thorough pelvic examination, endometrial assessment, colposcopic assessment and pelvic ultrasound scan to rule out any other gynaecological pathology.

In summary, PB in cervical smears are uncommon whilst this is the first known case of occurrence in two sisters one with osseous heteroplasia which may have a role to play in its pathophysiology.
HPV NEUTRALIZING ANTIBODY DETECTION IN SERUM USING LIQUID BEAD ARRAY SYSTEM

P.K. Chaturvedi¹, H.J. Bang¹, J.E. Kim¹, L.Y. Wen¹, S. Bae¹, Woong Shick Ahn¹,²

¹Cancer Research Institute, The Catholic University of Korea, ²Department of Obstetrics and Gynecology, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Detection of HPV (Human papillomavirus) DNA by nucleic acid hybridization is the method of choice for the diagnosis of HPV infection. Though DNA detection assays used, are highly sensitive, the data define only current HPV status, and previous transient infection may be missed. Numerous serologic studies using mainly HPV VLPs (virus like particles) have demonstrated that infection with HPVs follows a serologic immune response to viral capsid proteins and that anti-VLP antibodies can be an indicator of life-time exposure to HPV infection. It has been suggested that HPV VLP serologic assays may be a potential tool to identify women at risk for high-grade cervical intraepithelial neoplasia. In this study, we introduce a convenient method for investigating the seroresponse to HPV. By using multiplex luminex microbeads covalently coupled with HPV antigen, we can evaluate neutralizing antibodies and measure the titers of antibodies specific to each subtype. HPV 6, 11, 16 and 18 L1 genes were amplified by PCR, cloned into pGEX vector with GST tag and expressed in E.coli. Purified GST fusion proteins were coupled to respective microbeads and luminex assay was performed with patients’ serum, collected 3 months after the final dose of quadrivalent HPV vaccine. The assay described in this study proved to be a robust, sensitive and high throughput assay to simultaneously measure antibodies to HPV type-specific, neutralizing epitopes against multiple HPV genotypes.
HPV GENOTYPE DETECTION USING MULTIPLEX LIQUID ARRAY BASED SYSTEM

E.-H. Kwon¹, H.-J. Bang¹, R. Wen¹, S. Bae¹, Woong Shick Ahn²

¹Cancer Research Institute of Medical Science, The Catholic University of Korea, ²Ob/Gyn, The Catholic University of Korea, Seoul, Republic of Korea

The accurate genotyping of human papillomavirus (HPV) is clinically important because the oncogenic activity of HPV is dependent on the specific genotypes. Although HPV genotyping by sequencing is the most accurate method, it is the most labor intensive and time-consuming. Therefore, the highly accurate, efficient, and rapid HPV genotyping method should be developed. Here, we describe the new development of a Luminex-based HPV genotyping that combines polymerase chain reaction amplification with hybridization to fluorescence-labeled polystyrene bead microarrays. The assay includes the simultaneous detection of 17 high-risk types (HPV-16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 54, 55, 56, 58, 59, 66, 68) and 6 low-risk types (HPV-6, 11, 34, 40, 67, 70) most associated with disease. The assay performance was tested on HPV plasmids as well as clinical specimens. A bead array consisted of these sets was used for HPV genotyping of 571 specimens and its accuracy was evaluated with DNA sequencing results. The accuracy of the bead array was 95.97%. In addition, the sensitivity, specificity, positive predictive value and negative predictive value of the bead-based HPV genotyping method were 97.08%, 95.17%, 93.57% and 97.83%, respectively. The results of this study show that the bead array is a good candidate for an efficient HPV genotyping because it was highly accurate, efficient, and rapid for identifying individual HPV types.
DOES CERVICAL SCREENING IN YOUNG WOMEN (20-25 YEARS) IN NORTHERN IRELAND LEAD TO UNNECESSARY AND HARMFUL INTERVENTION?

Moza Al Kalbani, J. Price, G. Thompson, H. Nagar
Dept. of Gynaecological Oncology, Belfast Health and Social Care Trust, Belfast, UK

Objective: Cervical Human Papillomavirus (HPV) infection in young women (20-25) years is common and normally transient. There are concerns that referral to a colposcopy clinic may lead to unnecessary treatment with an increasing the risk of obstetric complications. The purpose of this study was to determine the level of intervention for cervical abnormalities in this age group in Northern Ireland population.

Methods: A review of the case notes of all new patients under 25 years old who was referred to colposcopy clinics in Northern Ireland between 1st January 2006 to 30th June 2006.

Results: During the period of the study there were 4767 women under 25 years were screened. Two hundred and thirty four (4.9%) were referred to colposcopy clinics. The cervical cytology result was high grade abnormality in 31% and low grade abnormality in 31%. One hundred and seventy eight (76%) of the referred women had a treatment. One hundred and twenty one women underwent an excisional treatment with the histology showing the presence of high grade abnormalities (CIN2-3) in 52%, CIN I in 28%, and Koilocytosis or normal tissue in 20%.

Conclusion: Screening women under the age of 25 years cause unnecessary referral for colposcopy. This can result in considerable anxiety and psychosexual morbidity. It also leads to an over treatment with a potential negative impact on the future pregnancy outcomes including preterm delivery, low birth weight and preterm premature rupture of membranes.
FIGO STAGE 1A AND SMALL (<2CM)1B1 CERVICAL ADENOCARCINOMAS HAVE AN EXTREMELY GOOD PROGNOSIS AND MAY WARRANT LESS RADICAL SURGERY

Moza Al-Kalbani¹, W.G. McCluggage², G. McVeigh², H. Nagar¹

¹Dept. of Gynaecological Oncology, ²Dept. of Pathology, Belfast Health and Social Care Trust, Northern Ireland, UK

Objectives: There is controversy regarding the optimal management of small cervical adenocarcinomas and more radical surgery is often undertaken compared to similar size squamous carcinomas. We wished to determine the risk of parametrial involvement and metastatic disease and the outcome in FIGO 1A and small (<2cm) 1B1 cervical adenocarcinomas.

Methods: All women with a diagnosis of FIGO stage 1A1, 1A2 or 1B1 cervical adenocarcinoma with maximum tumour size of 2 cm were identified between 1999 and 2010 in Northern Ireland. A single pathologist reviewed all pathology prospectively at a cancer centre tumour board.

Results: A total of 71 women were identified. 36 women had stage 1A1, 8 had stage 1A2 and 27 had stage 1B1 cervical adenocarcinoma. Treatment varied from large loop excision of transformation zone (LLETZ) to radical hysterectomy and pelvic node dissection. No parametrial involvement was seen in any of the 37 women who underwent parametrial resection. No lymph node metastasis was found in any of the 43 women who underwent pelvic lymph node dissection. Lymphovascular space invasion was found in 6 women. No tumour recurrence or metastasis was noted with an average follow up of 60 months.

Conclusion: The optimal management of women with 1A or small 1B1 cervical adenocarcinoma is controversial and radical surgery is often undertaken. Our data suggests that there is an extremely low risk of parametrial and lymph node involvement with tumours <2cm and a low recurrence rate. Less radical surgery may be warranted for small cervical adenocarcinomas and this should be addressed by future studies.
CERVICAL CANCER TOGETHER WITH CIRRHOSIS IN A DIABETIC WOMAN

Soheila Aminimoghaddam¹, B. Mokri², F. Mahmoodzadeh³

¹Department of Obstetric and Gynecology, Firouzgar Clinical Research Development Center (FCRDC), Firouzgar Hospital, Tehran University of Medical Sciences, ²Department of Internal Medicine & Critical Care Medicine, National Research Institute of Tuberculosis and Lung Disease (NRITLD), Masih Daneshvari Hospital, Shahid Beheshti University. M.C, ³Mazandaran University of Medical Sciences, Tehran, Iran

Cervical cancer is a hazardous health problem in women. Usual presentation in unscreened females is locally advanced cervical cancer.

Combinations of surgery and radiotherapy or neoadjuvant chemotherapy with surgery are administered for several patients.

The 78 year old female was hospitalized with abdominal mass and ascites. Cirrhosis and pyelonephritis were detected. Neoadjuvant chemotherapy followed by Bilateral Salpingo-Oophorectomy and Total Hysterectomy was administered. She was discharged from hospital three weeks after surgery with no serious complications.

In conclusion, the factors which cause immune dysfunction could lead to cervical cancer especially in older women. Neoadjuvant chemotherapy followed by surgery could be beneficial in women with localized advanced cervical cancers.
ABDOMINAL SCAR RECURRENCE OF SQUAMOUS CELL CARCINOMA OF CERVIX FOLLOWING SIMPLE Hysterectomy

Ruchi Sandeep Arora, D.S. Kalpana, A.S.B. Chauhan, R.P. Bhansali, J.D. Patel

Gyneconology, Gujarat Cancer & Research Institute, Ahmedabad, India

Carcinoma of uterine cervix recur most commonly loco regionally after surgery and/ or radiation therapy. The present case is unusual because incisional skin metastasis was seen in Squamous cell carcinoma cervix where patient did not receive any adjuvant treatment after simple abdominal hysterectomy and presented to us 2.5 years after surgery with skin and omental metastases. Exploratory Laparotomy with removal of metastatic nodule from anterior abdominal wall and Infracolic omentectomy was done on 1/9/09 followed by three cycles of chemotherapy. Patient is disease free with last follow up on 16/08/2010.
LARGE CELL NEUROENDOCRINE CARCINOMA OF THE UTERINE CERVIX: A REPORT OF A CASE

Oliver Arsovski, S.V. Petreska, V. Klisarovska, E. Lazareva, N. Vasev, V. Krstevska

Department of Gynecologic Oncology, University Clinic of Radiotherapy and Oncology, Skopje, FYR Macedonia

Background: Large cell neuroendocrine carcinoma is a rare aggressive cervical neoplasm, considerably rarer than the well-recognized small cell neuroendocrine carcinoma of the cervix. Cervical large cell neuroendocrine carcinomas are distinctive cervical carcinomas that are frequently misdiagnosed and have an unfavorable outcome, similar to that of small cell carcinoma.

Methods: We report three woman, median age 38 years, referred to our Institution in good performance status, ECOG =0, for postoperative adjuvant treatment. Their operation was finished as radical hysterectomy and bilateral salpingoophorectomy plus pelvis lymphadenectomy. Hystopathologic findings showed large cell uterine cervical neuroendocrine carcinoma with characteristic immunohistochemical markers. Each tumor was immunoreactive for chromogranin A and/or synaptophysin.

Results: They received external beam radiation by standard field (whole pelvis) with a dose of 5040cGy at 180cGy fractions per day by four-field technique. They were concurrently treated with six cycles of Paclitaxel 175mg/m2 iv on day 1 plus Carboplatin AUC 5 on day 1, (repeated each three weeks) given every 21 day. Laboratory findings were in referent ranges, thus allowing the use of this chemotherapy regimen, as scheduled and in full doses. Six months after multimodality treatment they were doing well (NED and without treatment related toxicity).

Conclusion: Based on the rarity of large cell neuroendocrine cervical carcinomas, it is difficult to perform large-scale randomized control trials to delineate the optimal therapy. Since it is an aggressive tumor, multimodality treatment is advised in an attempt to reduce recurrence rate, dissemination and mortality, at the risk of increased morbidity.
EVALUATION OF SCREENING METHODS FOR PREMALIGNATE PATHOLOGY OF CERVICS

Rexhina Bajo¹,2, E. Dede³, I. Berati⁴

¹Service of Gynecology, University Hospital, Tirana, ²University Hospital Obstetric and Gynecology, Tirana, ³Obstetric-Gynecology, University Clinic for Gynecology and Obstetrics, ⁴Polyclinic Nr 9, Polyclinic, Tirana, Albania

Introduction: Cervical cancer is a significant cause of death, a major cause of emotional and physical distress in women. Each year an estimated 500,000 new cases of cervical cancer occur and 27,000 women die from the disease; the majority of cases are seen in the developing world, where cervical cancer kills more women than other forms of cancer. Tumorous diseases are in the second place of reasons which led to death in Albania. Mortality of cervical cancer (CeCa) from 0.5 in 1999 and reaches 1.1 in 2003 (INSTAT 2003)

Objective: the objective of this study is to evaluate screening devices/methods with quality evaluation of colposcopy test for early diagnosis of CeCa in order to prevent their pathology.

Aim: Evaluation of screening methods for premalignant and malignant pathology of cervix

Case report: 156 cases

Design: In 2008-2009 a total study, who are sexual active, who are not pregnant and who do not have anamnesis for cancerous diseases. HPV detection was achieved at the University Hospital Center "Mbreteresha Geraldina" Maternity with cytology, colposcopy examination and biopsy-histology. The Institute "Regina Elena" in Rome uses HPV Testing.

Conclusion/Result: This study showed first that all the types of mistakes which generate as a consequence of patient’s selection and the methodology used may be eliminated with performing colposcopy/biopsy. Second, the value of colposcopy, remains significant and an integral part of methods for the diagnosis of neoplasia in early stages.
PRELIMINARY RESULTS OF CERVICAL CANCER SCREENING PROGRAMME IN RURAL WEST BENGAL

Chinmay Basu

Netaji Cancer Research Institute, Kolkata, India

Introduction: There is no effective screening program for cervical cancer in India. High cost precludes HPV mass screening and cytological screening has major drawback of poor sensitivity and requirement of trained personnel including pathologists.

Methods: As outreach programme of our hospital we regularly arrange camps where we do visual inspection of the cervix following the application of 5% acetic acid (VIA) or Lugol’s iodine (VILI). We use video colposcopy as triage and referred positive cases for biopsy. We evaluated our early screening results by finding out detection rates of early lesions of cervix and in this uncontrolled observational study.

Results: During January 2009 and December 2009 we screened 856 women amongst 950 patients reporting for such screening. 124 cases (14.4%) were VIA positive. 15.7% (135 cases) were positive for VILI. Roughly one third cases were suspected high grade (CIN 2 or 3, 40 cases of VIA positives). On colposcopy triage we could detect 32 cases of low grade lesion (CIN 1, 38% of VIA positives) and 16 cases (CIN 2 or 3, 40% of VIA positives) were high grade (CIN 2 or 3). There were three frank malignant cases in our series. When biopsy was done 21 cases of CIN 1 and 11 cases of CIN 2 and 3 were detected.

Conclusion: Our results show that VIA with colposcopy triage is viable option in rural cervical cancer screening programme in our outreach programme.
DOMINANT NEGATIVE UBIQUITIN CONJUGATING ENZYME E2C SENSITIZES CERVICAL CANCER CELLS TO RADIATION

Mayil Vahanan Bose¹, G. Gopal¹, G. Selvaluxmy², T. Rajkumar¹

¹Department of Molecular Oncology, ²Department of Radiation Oncology, Cancer Institute (WIA), Chennai, India

Aim: To find the expression levels of Ubiquitin conjugating enzyme E2C (UBE2C) in cervical cancer cell lines and to correlate their radiation response. To investigate the effect of dominant negative Ubiquitin conjugating enzyme E2C (DN-UBE2C) in cell proliferation and radiation response.

Materials and methods: Taqman Real time PCR was done for UBE2C levels in cervical cancer cell lines. Radiation sensitivities of cervical cell lines were analyzed by assessing their cell survival after irradiation with different doses by MTS assay. Growth curve and radiation response of DN-UBE2C transfected SiHa and HeLa cell lines were also assessed by MTS assay.

Results: Quantitation of UBE2C levels revealed at least a four-fold over expression in SiHa cells and more than 2 fold in HeLa, C33A and ME180 relative to the HEK293 cells. Radiation response studies reveal, SiHa as most resistant cell line showing 30 % survival at 10 Gy, whereas C33A cells were most sensitive showing 30 % survival even at 4 Gy. The growth rate of SiHa and HeLa transfected with DN-UBE2C was significantly reduced compared to vector control. Similarly, DN-UBE2C mediated radiosensitivity was correlated with a significant decrease in resistance to radiation by SiHa (2, 4, 8Gy) and HeLa cells (2, 4Gy) after transfection with the DN-UBE2C when compared to control cultures (figure 1). Overall significance level of 0.05 was observed between all groups.

Conclusion: These results suggest that UBE2C may be a potential therapeutic target for cervical cancer.
ADHERENCE TO NATIONAL HEALTH SERVICES CERVICAL SCREENING PROGRAMME
COLPOSCOPY STANDARDS: A REVIEW OF COLPOSCOPY SERVICES AT DONCASTER
ROYAL INFIRMARY

Meghna Datta, M. Alloub

Obstetrics & Gynaecology, Doncaster Royal Infirmary, Doncaster, UK

Objective: To compare the colposcopy service at DRI with the national standards for colposcopy by
the NHS Cervical Screening Programme

Method: A retrospective audit of 72 new patients attending the colposcopy clinic from January till April
2009 was performed. Data was analysed using Microsoft Excel. The standards were from 'Colposcopy
NHSCSP Publication no. 20, May 2010’.

Results: The colposcopy clinic at Doncaster Royal Infirmary has a low failure to attend rate for new
patients (12%). Although the standard for referral to clinic was not met for high grade patients, 83%
were seen in four weeks. Rate of excisional treatments under local anaesthetic (91%) was high. The
complication rates in this subset of patients was nil. Documentation of the details of the colposcopy
examination, especially with regards to a satisfactory examination visualising the entire SCJ, the
upper limit of any lesion seen and impression of the grade of the lesion was poor. Specimens
removed as a single sample (68%) was lower than the standard set by the national guidelines and the
percentage of incomplete excisions was high at 27%.

Conclusion: Most patients attending for colposcopy at DRI are seen within the appropriate time and
treated according to the national standards. Documentation is the main area of poorer performance.
The use of a proforma to remind colposcopists of the specific findings to record may improve this. Use
of national standards will help provide a colposcopy service which is evidence based and will lay a
solid foundation for future development.
EVALUATION OF CONCURRENT CHEMORADIATION IN LOCALLY ADVANCED CERVICAL CANCER

Surbhi Dhawan 1, V. Jain 2, S. Jain 3, M. Mittal 4

1Gynae-Oncology, Mohan Dai Oswal Cancer Treatment & Research Foundation, 2Gynae-Oncology, 3Surgical Oncology, Ludhiana MediCity, 4Radiation Oncology, Mohan Dai Oswal Cancer Treatment & Research Foundation, Ludhiana, India

Aim of the study: To compare the efficacy & toxicity of cisplatin as concurrent chemoradiation with radiation alone in advanced stage Ca. Cervix (II B - III b).

Material and methods: 60 patients with locally advanced invasive squamous cell carcinoma of the cervix (FIGO stage II B & III) were enrolled in the study over a period of 2 year (Jan2006-Dec 2008). Group A included 30 patients who received weekly cisplatin in a dosage of 40 mg/m2 with external radiotherapy and before each brachytherapy. Group B included 30 patients who received only radiation treatment.

Results: The early treatment response as assessed after 2 months of therapy were 66.6% & 58.5%, 26.4% and 31.7%, 93% and 90.2% as complete response, partial response and overall response for group A & group B. At Mean follow up of 24 months in group A & B respectively. Disease free survival, survival with disease and overall survival were 67.4% and 43.9%, 7% and 12.2%, 74.4% and 56.1%. There was increase in early side effects (grade 1) in group A but none of patients had delay in radiotherapy. Late side effects were similar in both the groups.

Conclusion: To conclude cisplatin acts as a Radiosensitizer in advanced stage carcinoma cervix and improves the total overall response rate with no added toxicity.
COLPOSCOPY AUDIT

Leela Digumarti¹, K. Umadevi², U. Bafna²
¹Gynaecological Oncology, Rainbow Hospital, Hyderabad, ²Gynaecological Oncology, Kidwai Memorial Institute of Oncology, Bengaluru, India

Aim and objective: 1. To correlate colposcopy data with cytology and histology
2. To compare data with BSCCP 2010

Design: A retrospective audit from 2007 to 2009 (3 Years)

Setting: Gynaecologic Oncology Department, KMIO, Bengaluru, India

Methodology: Data from the colposcopy register and case notes

Results: 185 women were analyzed. 81.62% had satisfactory colposcopy: 43.2% had LSIL, 33.3% HSIL and 2.7% suspicious smears. Remaining 20.2% had normal, inflammatory, ASCUS or AGUS smears.

61.62% had low grade, 31.89% high grade, 2.1% suspicious and 4.32% had normal colposcopy. At histology, 50.85% had CIN1, 7.03% CIN2, 21.08% CIN3, 1.62% CIS, 5.4% squamous carcinoma in 14.02% were benign.

The results are as tabulated below:

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity %</th>
<th>Positive Predictive Value %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colpo versus Cyto</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSIL</td>
<td>95.8</td>
<td>89.6</td>
</tr>
<tr>
<td>HSIL</td>
<td>74.19</td>
<td>100</td>
</tr>
<tr>
<td>Colposcopy versus Histology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIN 1</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>CIN 3</td>
<td>100</td>
<td>82.75</td>
</tr>
<tr>
<td>Cytology versus Histology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSIL</td>
<td>83.5</td>
<td>89.7</td>
</tr>
<tr>
<td>HSIL</td>
<td>100</td>
<td>73.7</td>
</tr>
</tbody>
</table>

Results

69/80 LSIL smears had low grade features. 61/69 of these were consistent with CIN1.

45/62 HSIL smears had high grade features and all these had CIN2 to Squamous carcinoma (100%)

Conclusions:

1. Good correlation is seen between cytology, colposcopy and histology both in LSIL and HSIL
2. The correlation between colposcopy and histology is comparable to BSCCP standards (65%)
3. A robust data retrieval system will help avoid bias
THE USE OF TRANSVAGINAL COLOR BLOOD FLOW IMAGING IN PREDICTING CERVICAL MALIGNANCY

Goran Dimitrov¹, E. Dzikova², I. Andonova¹, E. Trajkovska³

¹Gynecologic Oncology, ²High Risk Pregnancy, University Clinic for Gynecology and Obstetrics, ³PZU. Dr. Emilija Trajkovska, Skopje, FYR Macedonia

Background and aims: To evaluate the usage of transvaginal color Doppler velocimetry in predicting cervical malignancy.

Methods: 40 patients were examined, 10 with invasive carcinoma and 10 with high squamous intraepithelial lesion (HSIL), used as a study group, and 20 patients with proven normal findings used as a control group, by transvaginal color Doppler ultrasound, measuring the resistance index (RI) of tumor blood flow.

Results: The study group showed significantly lower RI 0.48 (0.45-0.52), compared to the controls 0.65 (0.63-0.68) p< 0.0001. The malignant and HSIL group were not significantly different. 0.58 RI cut off value or less showed very high specificity and positive predictive value, and lower sensitivity and negative predictive value.

Conclusions: The use of transvaginal color Doppler velocimetry using the measurements of RI of the cervical tumor blood flow can help in early diagnosis and management of cervical malignancies but their usage as a screening diagnostic program is bounded.
INFLUENCE OF CERVICAL CONISATION ON PREGNANCY OUTCOME IN PATIENTS FROM MACEDONIA

Elena Dzikova¹, G. Dimitrov², I. Andonova²,³, E. Trajkovska⁴

¹High Risk Pregnancy, ²Gynecologic Oncology, University Clinic for Gynecology and Obstetrics, ³Special Private Hospital for Gynecology and Obstetrics ‘Sv. Lazar’r, ⁴PZU. Dr. Emilija Trajkovska, Skopje, FYR Macedonia

Background and aims: To analyse the influence of cervical conisation on pregnancy outcome.

Methods: 136 patients from Macedonia were examined. From them, 56 had previously undergone cervical conisation, and 80 without the relevant treatment done(control studies).

Results: From the analysed patients, 16.8% of the patients with cervical conisation were preterm delivered, and 5.8% from the control studies. The relative risk of abortion before 24 weeks of gestation was 4.2 in women who gave birth after cervical conisation compared with those with no cervical conisation performed. The relative risk of delivery was 4.6 at 24-27 weeks, 3.3 at 28-32 weeks, and 2.4 at 33-36 weeks.

Conclusions: The influence of cervical conisation on pregnancy outcome in patients from Macedonia shows increased risk of preterm delivery, especially in the early gestational age groups where the clinical significance is the highest. Therefore, the women for cervical conisation should be carefully selected and afterwards in those pregnant patients, appropriate clinical care should be performed.
POSTMENAPAUSAL BLEEDING AS FIRST SIGN OF GRANULOCYTIC SARCOMA OF UTERINE CERVIX: A CASE REPORT AND REVIEW OF THE LITERATURE.

Mary George\textsuperscript{1}, N.R. Talapadi\textsuperscript{1}, S. Raghavan\textsuperscript{2}

\textsuperscript{1}Obstetrics and Gynaecology, University Hospital of North Tees,\textsuperscript{2}Obstetrics and Gynaecology, James Cook University Hospital, Cleveland, UK

We present a case of primary granulocytic sarcoma (GS) of the cervix in a nonleukaemic patient presenting with postmenopausal bleeding.

Extramedullary manifestations of a haematological disease in the female genital tract are rare. We present a case of 56 year old lady presented with postmenopausal bleeding. Further evaluation confirmed the presence of GS of the cervix but failed to reveal systemic involvement. Cytogenetics was also reported as normal. She responded well to acute myloid leukaemia (AML) type systemic chemotherapy and bone marrow transplant.

Localised granulocytic sarcoma of the uterine cervix in the absence of acute myeloid leukaemia at presentation is very rare. Its diagnosis is often delayed and often reported as lymphoma initially as was in our case. Mean age at presentation is 47 but range from 26 - 75 years. our patient presented at the age of 56. Vaginal bleeding is the presenting symptom for 81 - 83% of the cases as was in this case. Abdominal pain and other systemic symptoms reported in 6 - 29% of the cases were absent in our patient.

Diagnosis is not always easy when GS appears at an extramedullary site in a nonleukaemic patient and only in 44% of the cases the correct diagnosis is made. Immunohistochemical stains are usually diagnostic.

GS of the cervix has a poor prognosis. Localised GS of the cervix is very rare and early intensive AML type chemotherapy appears to be appropriate. Our patient was treated with chemotherapy and bone marrow transplant with good response.
ERADICATION OF ADVANCED SCCC AFTER PEGYLATED-NANOPARTICLES BOUND TO SIRNA AGAINST BMI1 AND SURVIVIN CONJUGATED WITH MIR-373 TARGET CD44 CSCS

John Giannios¹, G. Kanellopoulos², J.K. Peristeris²

¹Head of Translational Cancer Medicine, Erasinio Oncology Hospital, ²Dept. of Gynaecology, Gaia Hospital, Athens, Greece

Background: Vinorelbine-tartrate in advanced Squamous Cell Cervical Ca (SCCC) and other solid tumors induces potent chemoresistance caused by activation of downstream signaling pathways of antiapoptotic survivin and aurora, induction of endopolyploidy, and efflux proteins including MDR1/Pgp, BCRP and MRP2.

Methods: After vinorelbine treatment in advanced SCCC, we observed potent chemoresistance caused by generation of cancer stem cells which were characterized by overexpression of miR-520c, CD44, BIRC5/survivin(IAP), aurora serine/threonine kinases leading to endopolyploidy, Ras/c-Myc, Nanog, MAP4, MDR1/Pgp, BCRP/ABCG2, MRP2 (cMOAT), Hedgehog signaling pathway components including PTCH1, Gli1, Gli2, and downregulation of BRCA1, p53, PTEN and p21. The vinorelbine-induced chemoresistant (VIC) cancer stem cells (CSCs) termed as VIC-CSCs were targeted with pegylated nanoparticles of cyclodextrin containing polycation (CDP) bound to multitargeted siRNA molecules against BMI1, and survivin conjugated with miR-373 targeting CD44. The formulation was termed as SEVINA-G.

Results: Post-treatment, we observed induction of D2 apoptotic stage of PCD type 1 in VIC-CSCs leading to a bystander killing effect after downregulation of the chemoresistant antiapoptotic factors and their downstream signaling pathways, and upregulation of apoptotic tumor suppressor genes and downstream target genes. Treatment with SEVINA-G even induced apoptosis in chemoresistant endopolyploid VIC-CSCs by downregulating Aurora-B.

Conclusions: Treatment with SEVINA-G eradicated vinorelbine induced chemoresistant cancer stem cells (VIC-CSCs) of advanced Squamous Cell Cervical Ca (SCCC).
PREGNANCY TWENTY YEARS AFTER A CERVICAL RHABDOMYOSARCOMA BOTRYOID

Lorena González Gea¹, A. Zapico Goñi², J.M. Menéndez Fuster², M. Guzmán Muñoz², C. Canseco Martín², A. Nieto Diaz²

¹Department of Obstetrics and Gynaecology, ²Príncipe de Asturias Hospital, Alcalá de Henares University, Madrid, Spain

Introduction: Botryoid rhabdomyosarcoma (RMS) is a rare and malignant tumour of girl's genital tract. It is usually seen affecting the vagina and more rarely it has a cervical origin. Simultaneous conservative surgery and chemotherapy have improved survival. We report a 16-year-old girl with a cervical RMS who was managed by conservative surgery and chemotherapy 20 years ago. Follow up has been uneventful and she is actually pregnant.

Case report: On 1991, a 16-year-old female was referred to our emergency settings due to an abnormal vaginal bleeding. Vaginal exam showed a polypoid mass of 8x4 cm at the anterior cervical folder. X-Ray and ultrasounds evaluation showed a heterogeneous mass filling the vagina with normal uterus and ovaries. A successful polypectomy was performed and pathology was consistent with botryoid emriobal group 1A with free tissue margins. Adjuvant chemotherapy was started three days later with vincristine 2 mg/week during 8 weeks and actinomycin D 2 mg/3 weeks/4 courses. Follow up has been uneventful during the last 20 years. Actually, the patient is pregnant with a normal follow up and an expected delivery date on April 2011.

Discussion: From Pelvic exenteration in the 1960s going through radical hysterectomy in the 1980s, we have finally come into a less invasive approach in the 1990s such as local excision, polypectomy or cone excision. Adjuvant chemotherapy has improved survival rates from 25% before 1970 to over 65% in 1995.

Conclusion: Conservative surgery in combination with chemotherapy should be the treatment of choice on fertility sparing early stage cervical rhabdomyosarcoma approach.
THE INFLUENCE OF THE TUMOR DIAMETER ON THE TREATMENT RESULTS IN CERVICAL SQUAMOUS CELL CANCER

Joanna Jonska-Gmyrek¹, L.J. Gmyrek², J. Staniaszek¹, A. Zolciak-Siwinska³, N. Piotrkowicz⁴, B. Lindner¹, R. Krynicki²

¹Radiotherapy Department, ²Gynecological Oncology Department, ³Brachytherapy Department, Maria Sklodowska-Curie Memorial Cancer Centre, Warsaw, ⁴Radiotherapy Department, Mazovian Centre of Oncology, Wieliszew, Poland

Introduction: Cervical cancer is the second cause of morbidity and the fifth cause of death among women. According to the epidemiological data, the decreasing tendency of cervical cancer morbidity, especially squamous cell, has been noted recently. The influence of the tumour diameter on the treatment results in cervical cancer patients, so far, has been the subject of not numerous studies.

Objectives: The assessment of the tumor diameter influence on the treatment outcome in cervical squamous cell cancer patients.

Material: The clinical material constituted 242 cervical squamous cell cancer patients, treated between 1989 and 1999 year at Maria Sklodowska-Curie Memorial Cancer Centre, Gynecological Oncology Department, Warsaw, Poland. All patients were treated with surgery and complementary radiotherapy or with radiotherapy alone. In all patients, during the diagnostic procedures, the tumor diameter was measured, using the transvaginal ultrasonography (USG TV).

Method. The retrospective multivariate Cox's analysis of the most important clinico-histopathological factors, in aspect of the overall (OS) and the disease free survival (DFS), was performed. As the cut point of the tumour diameter, 3 centimeters was accepted.

Results: Regardless of the other factors, the influence of the pretreatment tumour diameter on the OS in cervical squamous cell cancer patients, was demonstrated, HR=1.7 [1.0, 2.8], p=0.044. We also observed the tendency of the influence of the tumour diameter on the DFS, p=0.08.

Conclusion: The pretreatment assessment of the tumour diameter in cervical squamous cell cancer patients may be helpful in the accurate treatment method selection.
A PROSPECTIVE NONRANDOMIZED STUDY OF NEOADJUVANT CHEMOTHERAPY FOLLOWED BY SURGERY VS PRIMARY SURGERY IN IB2/BULKY IIA CERVICAL CANCER

Rama Joshi¹, L. Satyanarain², R.C. Joshi³

¹Gynecology Oncology, Artemis Cancer Centre, Artemis Health Institute, Gurgaon, ²Medical Statistics, Institute of Cytology and Preventive Oncology, Noida, ³Oncology, Northern Railway Central Hospital, New Delhi, India

A prospective nonrandomized study was carried out in patients of FIGO IB2 / IIA bulky cancer cervix at Indian Railways Cancer Institute, Varanasi between January 1994 and August 1999 with the aim of comparing disease free survival and recurrence pattern in the two study groups. The protocol consisted of two arms. The control group (24 pts.) of primary surgery and adjuvant RT; and Neoadjuvant Chemotherapy group (23 pts.).

Surgery of type III Radical Hysterectomy and Pelvic Lymphadenectomy carried out in all patients. In the control group, patients received adjuvant pelvic RT as per indications. The patients in Neoadjuvant chemotherapy group received Bleomycin, Ifosfamide, Cisplatinum regime 2 to 3 cycles prior to surgery 3 weekly. 19 patients in control and 18 in Neoadjuvant chemotherapy arm completed treatment and were evaluable.

The median follow-up was 60 months. The survival was calculated by Kaplan - Meier and Log-Rank test to determine the level of significance.

Complete clinical response to chemotherapy was observed in 55.6% and partial response 27.8%, 5 of the complete responders had pathological complete response (27.8 %).

No significant increased toxicity was observed in study group.

There were less distant recurrences (11.2 % vs 26.3%) in study group.

The 5 year DFS in the Neoadjuvant chemotherapy and Control group was 72.2% vs 62.3% respectively. The difference was not statistically significant.

5 Patients achieving pathological complete response were NED at last Followup 60 -70 months.

Conclusion: 5 Yr. DFS in Noadjuvant Chemotherapy group was higher but not statistically significant.
**HPV VACCINATION: IS IT REALLY THE ANSWER FOR INDIA? OR NOT YET!**

Suman Kadian, U. Bathula

*Obstetrics and Gynaecology, Stafford General Hospital, Stafford, UK*

**Introduction:** HPV vaccination has taken the western world by storm and is being promoted actively for uptake in developing countries by the pharmaceutical companies. There are 270,000 cervical cancer deaths yearly out of which 80% are in the developing countries. However relevance of these vaccines in the resource restricted health settings of these areas needs serious reflection.

**Objective:** The relevance of HPV vaccination at its current stage of development in the Indian context. In medicine any preventive measure or treatment needs to be evaluated before implementation, which includes checking efficiency, safety, cost effectiveness, acceptability and ease of delivery. In the Indian context, at its current level of development the HPV vaccines leave a lot to be desired in most of these aspects.

**Methods:** Literature search:

- Age range discrepancy: Indian national average age of marriage for girls was 20.6 years i.e; the start of sexual activity for majority of Indian girls. Also the highest rate of HPV infection for women is in the 25-35 yrs age group. The 7yr data of the vaccine does not even begin to cover this age range given the fact that the vaccine is ideal to be given to prepubertal girls.

- 30% of cancers are not caused by the strains covered by the vaccine.

- Effectiveness of the vaccines is unsure in immunocompromised patients including HIV & TB

- Cost: 3 injection course is approximately 360$.

**Conclusions:** Given all the above uncertainties and financial constrains does it make sense to implement an expensive nationwide vaccination programme?
OUTCOME OF IRANIAN PATIENTS WITH CERVICAL CANCER ACCORDING TO TUMOR HISTOLOGY, STAGE OF DISEASE AND THERAPY

Mojgan Karimi Zarchi¹, A. Akhavan², S. Mojahed², H. Gholami²
¹Gynecologic Oncology, ²Shahid Sadoughi University, Yazd, Iran

Cancer of cervix, 2nd common cancer of women, is the leading cause of cancer death in developing countries. The purpose of this study was to measure outcome of treated cervical cancer cases in Yazd since 2002 to 2009, according to pathology, stage of disease, lymph nodes involvement and therapy.

Material and methods: 100 cases treated women due to invasive cervical cancer were enrolled in this study. Survival of patients was asked through phone calls. 3 and 5-year survival rate of patients were evaluated by Long-Rank test and the data was analyzed by SPSS software.

Results: Mean age of patients was 53.6 years. 3-year survival was 75.9% (mean of survival was 59.44 months). 3-year survival of adenocarcinoma cases was 87.5%. Stage IIB and IIIB survival rate was 90.9% and 30.8% respectively. It should be noted that survival of cases with and without lymph nodes involvement was 64.8% and 80.1% respectively.

According to Para-aortic lymph nodes involvement, survival rate was 85.8% (mean of survival: 65.3 months). In patients who underwent operation and chemo radiation survival rate was 71.63% and 54.9 respectively. However; Survival rate of anemic and non anemic cases was 50% and 78% respectively.

It should be noted that our findings were similar to others.

Discussion: As patients were detected in higher stages, there was just significant relationship between survival rate with stage IIB and IIIB. The relationship between survival rate and lymph nodes involvement was weak. Survival rate of women received chemotherapy was less than who underwent operation.
CONSERVATIVE TREATMENT IN YOUNG PATIENTS WITH CERVICAL CANCER: A REVIEW

Mojgan Karimi Zarchi¹, A. Mousavi², M. Malekzadeh³, A. Dehghani⁴

¹Gynecologic Oncology, Shahid Sadoughi University, ²Tehran University of Medical Science, ³Shahid Beheshti, ⁴Shahid Sadoughi University, Yazd, Iran

Cervical cancer cases with low risk of relapse who wish to maintain their fertility, radical trachelectomy can be done instead of radical hysterectomy. Pelvic MRI before surgery is recommended. Laparoscopic assisted lymphatic dissection before radical trachelectomy is required for assessment of lymphatic metastasis. If there is a visible lesion in the cervix, the specimen taken during trachelectomy should be sent for frozen section. The complications of radical trachelectomy are chronic vaginal discharge, irregular vaginal bleeding, dysmenorrhea, cerclage region ulcer, amenorrhea and cervical stenosis.

The probability of cervical cancer recurrent in lesion with similar size in radical trachelectomy in compare with radical hysterectomy is the same.

Two third of pregnancies after trachelectomy lead to alive born in which 40% of them are healthy. However; Probability of second trimester abortion and preterm labor is more than general population. Because of probability of uterus artery injury in short cervix, vaginal delivery should be avoided and cesarean operation in 37-38th week is recommended. Adjuvant treatment with chemotherapy followed by radical trachelectomy is a suitable option for larger lesions. On the other hand; conization or simple trachelectomy is a more proper approach for so small lesions. Also in this study we report two patients with cervical cancer who underwent radical abdominal trachelectomy.
COMPARISON OF THE EXPRESSION OF THE P16 AND KI-67 BETWEEN CERVICAL SQUAMOUS CELL CARCINOMA AND ADENOCARCINOMA

Obstetrics and Gynecology, Gachon University Gil Hospital, Incheon, Republic of Korea

Objective: To evaluate the p16 and Ki-67 expressions in cervical adenocarcinoma, we examined the p16 and Ki-67 expressions in cervical squamous cell carcinoma and adenocarcinoma.

Method: Immunohistochemical staining for p16 and Ki-67 was performed in 30 squamous cell carcinoma, 30 adenocarcinoma and 20 controls. A score was given as follows: 0 points for 0% reactivity, 1 point for 1-10% reactivity, 2 points for 11-50% reactivity, 3 points for 51-80% reactivity, and 4 points were for 81-100% reactivity.

Result: There were significant differences in p16 (p=0.00) and Ki-67 (p=0.00) expression status between control, squamous cell carcinoma and adenocarcinoma.

As for p16 expression, the entire squamous cell carcinoma patient showed 4 point. But, in adenocarcinoma patients, p16 expressions were as follows: 4 point, 25 patients; 2 point, 1 patient; 0 point, 4 patients. In squamous cell carcinoma patients, Ki-67 expressions were as follows: 3 point, 7 patients; 2 point, 23 patients. But, in adenocarcinoma patients, Ki-67 expressions were as follows: 3 point, 1 patient; 2 point, 28 patients; 1 point, 1 patient.

There were significant differences in expression status of p16 (p=0.02) and Ki-67 (p=0.01) between squamous cell carcinoma and adenocarcinoma.

Conclusion: p16 and Ki-67 expressions of cervical adenocarcinoma were significantly lower than those of cervical squamous cell carcinoma.
DIAGNOSTIC ACCURACY OF LIQUID-BASED CYTOLOGY VERSUS CONVENTIONAL CYTOLOGY FOR CERVICAL NEOPLASIA: A SYSTEMATIC REVIEW OF RANDOMIZED STUDIES

Kemin Li
West China Second University Hospital of Sichuan University, Chengdu, China

Objective: To evaluate the diagnostic accuracy of liquid-based cytology comparison with conventional cytology for cervical neoplasia.

Data Source: Randomized Controlled Trials were identified from 7 electronic databases, and related data and their references were handsearched. Strict selection criteria were applied according to types of interventions and participants.

Methods of Study Selection: The sensitivity, specificity, diagnostic odds ratio (DOR), negative likelihood ratio (NLR) and positive likelihood ratio (PLR) of liquid-based cytology and conventional cytology, and the ratio of sensitivity and of specificity of liquid-based cytology relative to conventional cytology and 95% confidence interval (95% CI) of that for detecting CIN 1+, CIN 2+ and CIN 3+, were calculated. Literatures screening, data extraction and assessment were performed independently by two authors.

Tabulation, Integration, and Results: 8 randomized controlled studies were eligible. The difference of statistics in sensitivity at cut-off ASCUS+ for detecting CIN 2+ and in specificity at cut-off ASCUS+ for detecting CIN 2+ and CIN 3+ and at cut-off LSIL+ for detecting CIN 3+ were found between liquid-based cytology and conventional cytology, and the ratio of the parameters of liquid-based cytology relative to conventional cytology and 95% CI of that were 0.99 (0.98-1.00), 0.98 (0.97-1.00), 0.97 (0.96-0.98), and 0.99 (0.99-1.00), respectively. But the difference in other arms weren’t found between the two tests.

Conclusion: Based on current evidence of evidence-based medicine, the liquid-based cytology was neither more specificity nor more sensitivity for detecting high grade CIN than convention cytology.
DIAGNOSTIC ACCURACY OF HUMAN PAPILLOMAVIRUS TEST FOR CERVICAL NEOPLASIA: A SYSTEMATIC REVIEW OF RANDOMIZED STUDIES

Kemin Li, R. Yin
West China Second University Hospital of Sichuan University, Chengdu, China

Objective: To evaluate the diagnostic accuracy of human papillomavirus (HPV) test for cervical neoplasia.

Methods: Randomized Controlled Trials (RCTs) were identified from 7 electronic databases, and related data and their references were handsearched. Strict selection criteria were applied according to types of interventions and participants. Literature screening, data extraction and assessment were performed independently by two authors.

Results: 9 RCTs were identified. The ratio of sensitivity of HPV only test relative to conventional cytology for CIN 1+, CIN 2+ and CIN 3+ and 95% CI of that were 1.05 (1.00-1.10), 1.03 (0.99-1.07), and 1.00 (0.96-1.05), and the ratio of specificity and 95% CI of that were 0.93 (0.92-0.94), 0.95 (0.93-0.96), and 0.94 (0.92-0.96). The ratio of sensitivity of HPV as primary test relative to conventional cytology for CIN 1+, CIN 2+, and CIN 3+ and 95% CI of that were 1.05 (1.00-1.10), 1.03 (0.99-1.08), and 1.00 (0.91-1.10), and the ratio of specificity and 95% CI of that were 1.00 (1.00-1.00), 1.00 (0.99-1.00), and 1.00 (1.00-1.00). And the ratio of sensitivity of HPV combined with cytology test relative to conventional cytology for CIN 2+ and CIN 3+ and 95% CI of that were 1.19 (1.11-1.28), 0.98 (0.91-1.05), and the ratio of specificity and 95% CI of that were 0.83 (0.70-0.98), 0.93 (0.92-0.93).

Conclusion: Current evidence of evidence-based medicine may indicate that, compared with conventional cytology, HPV only test or HPV as primary test could improve the sensitivity for detecting CIN 1+, and HPV combined with cytology test could improve the sensitivity for detecting CIN 2+, but the HPV test couldn't improve the specificity for detecting cervical neoplasia.
HUMAN PAPILLOMAVIRUS DNA TESTING IN WOMEN WITH CERVICAL CYTOLOGIC ABNORMALITIES

Kemin Li, R. Yin
Gynecology, West China Second University Hospital of Sichuan University, ChengDu, China

Objective: Results of cervical cytology screening showing atypical squamous cells of undetermined significance (ASCUS) or low or high-grade squamous intraepithelial lesions (LSIL or HSIL) indicate risk for high-grade cervical intraepithelial neoplasia (CIN 2 or 3) or cancer. We compared the test performance of human papillomavirus (HPV) DNA with cytology test in detecting histologically confirmed CIN 2, 3, or cancer.

Methods: 484 women aged 20-70 years with ASCUS+ (ASCUS, LSIL, HSIL, or cancer) on cervical cytology screening or being suspected with the infection of HPV were referred for HPV DNA testing and colposcopy, and then biopsy if the result of colposcopy was abnormal. We calculated test performance in women who completed the trial using CIN 2 or 3 or cancer as the reference standard.

Results and Conclusions: The follow-up of participants and data statistics are being performed. We predicts HPV test combined with cytology test could improve the sensitivity for screening high-grade cervical intraepithelial neoplasia or cancer.
TO ASSESS THE EFFECT OF SHORTENING OF OVERALL TREATMENT TIME BY INTERDIGITATING BRACHYTHERAPY WITH CONCURRENT CHEMORADIATION IN CARCINOMA CERVIX

Mamta Lodha, N. Patni, R. Pasricha
Radiation Oncology, BMCHRC, Jaipur, India

Background: Overall treatment time is an important factor in outcomes of radical radiotherapy. Studies suggest that prolongation of overall treatment time is associated with decreased local control and survival rates in carcinoma cervix.

Objective: To assess the effect of shortening of overall treatment time on local control, disease free survival & toxicity by interdigitating HDR intracavitary brachytherapy with concurrent chemoradiation in carcinoma cervix.

Material and methods: The study was conducted at BMCHRC from May 2007 to Nov. 2008. Twenty three patients met eligibility criteria for randomization into arm A or arm B.

All the patients were assessed weekly based on Objective criteria: i) CBC ii) S creatinine and Subjective criteria: Symptomatic relief in i) Bleeding ii) Pain iii) Discharge

Acute toxicities were assessed during and at the end of three months of treatment while chronic toxicities were assessed from 3 months till the last follow up based on CTCAE version-3.

Results:

<table>
<thead>
<tr>
<th>PARAMETERS</th>
<th>ARM A</th>
<th>ARM B</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow up (months)</td>
<td>mean=8.42</td>
<td>mean=9.18</td>
<td>0.729</td>
</tr>
<tr>
<td></td>
<td>median=7.0</td>
<td>median=8.0</td>
<td></td>
</tr>
<tr>
<td>Disease free survival (months)</td>
<td>mean=8.33</td>
<td>mean=8.73</td>
<td>0.865</td>
</tr>
<tr>
<td></td>
<td>median=7.0</td>
<td>median=8.0</td>
<td></td>
</tr>
<tr>
<td>Local failure rate (%)</td>
<td>8.33</td>
<td>9.09</td>
<td>0.598</td>
</tr>
</tbody>
</table>

| Acute toxicity (%) (grade III/IV) | Gastrointestinal | 0       | 9.09   |
|                                   | Genitourinary    | 0       | 0      |
|                                   | Myelosupression  | 0       | 0      |
| Chronic toxicity (%) (grade III/IV)| Gastrointestinal | 0       | 0      |
|                                   | Genitourinary    | 0       | 0      |

Conclusion: The study concluded that HDRBT interdigitated with EBRT appears to be as effective as the conventional schedule with comparable toxicities.
CONTRACEPTIVE ACTIVITY OF ETHANOLIC EXTRACTS OF CITULLUS, EUPHORBIA, MARTYNIA, SOLANUM AND WITHANIA IN MALE WISTAR RATS

PRATAP Chand MALI
Department of Zoology, University of Rajasthan, Jaipur, India

Objective: Population explosion is a main threaten to mankind existence. Some of oral contraceptive has been reported to cause cancerous effects in female. There is an urgent need to take a fresh look of an effective measure for unwanted pregnancies and side effects of contraceptives. Therefore, to search a new safe, cheap, orally effective, reversible male contraceptive agent, 50 percent ethanolic extracts of Citullus, Euphorbia, Martynia, Solanum and Withania were administered orally in healthy male rats for 60 days.

Material and methods: Sperm motility and density were calculated. The blood was analyzed for hematology. Body, organs and testis accessory reproductive organs weights were recorded. The protein, cholesterol, Glycogen, fructose, ascorbic acid and sialic acid contents were determined in testis and accessory reproductive organs. Testis and accessory reproductive organs observed for histopathological changes. CPCSEA guidelines were followed. The data were analyzed statistically.

Results: The weight of testes and accessory reproductive organs were decreased significantly. The decreased biochemical contents of testis and accessory reproductive organs indicates androgens deprivations effects in the extract treated rats might caused degenerative changes in germinal epithelium, spermatocytes and mature spermatozoa and reduced motility with the treatment significantly declined the fertility of the rats.
THE COMBINED METHODS OF TREATMENT OF THE CERVICAL CANCER IN BELARUS ACCORDING TO THE ANALYSIS OF THE NATIONAL CANCER-REGISTER

Pistchyk Mikalai\textsuperscript{1,2}

\textsuperscript{1}The Republican Scientifically-Practical Center of Oncology and Medical Radiology of a Name of N.N.Aleksandrov, Grodno, \textsuperscript{2}National Cancer Center, Minsk, Belarus

According to the republic Belarus cancer-register (1110 sick suffering by a cervical cancer with 1991 on 2005) the combined methods of treatment in structure of methods of treatment of a cervical cancer occupy 3 and 4 places. Frequency of application of a radical hysterectomy 3 types with involving in a spectrum of treatment beam and chemotherapy in total sick of a cervical cancer for 15 years makes 11,3 % (1157 patients), and hysterectomies 2 types with addition of similar methods of treatment - 9,5 % (993 patients). The importance of these techniques in case of increase in prevalence of tumoral process decreases. Frequency of application of the combined methods of treatment of a cervical cancer differs in various regions of republic Belarus. Analyzing figures of indicators of efficiency of treatment in different regions of the country at application of the combined methods of treatment we see that various frequency of their application at various prevalence of tumoral process doesn’t influence size of values 5, 10-year-old survival rate and a median of life of patients cervical cancer I - III stages.
COMPARISON OF THE CERVISTA™ HPV ASSAYS AND HPV 4 ACE FOR DETECTION OF HPV 16/18 IN HYBRID CAPTURE 2-POSITIVE MEDIA

Kyung Jin Min¹, J.E. Lee¹, H.R. Hong¹, K.A. So¹, J.H. Hong², J.K. Lee¹, A.R. Kim³, K.W. Lee⁴

¹Department of Obstetrics and Gynecology, Guro Hospital, College of Medicine, Korea University, ²Department of Obstetrics and Gynecology, KangBuk Samsung Hospital, ³Department of Pathology, Guro Hospital, College of Medicine, Korea University, ⁴Department of Obstetrics and Gynecology, Anam Hospital, College of Medicine, Korea University, Seoul, Republic of Korea

Objectives: To validate clinical efficacy and applicability of novel human papillomavirus (HPV) genotyping methods, the Cervista™ HPV HR and HPV 16/18 tests, and HPV 4 auto-capillary electrophoresis (ACE)

Methods: We carried out genotyping in 100 samples of Hybrid Capture 2 (HC 2)-positive patients and 100 samples of normal control group. Correspondence between each HPV DNA tests, and the sensitivity and specificity of diagnosis were checked.

Results: The Cervista™ HPV HR test and the HPV 4 ACE test with type-specific PCR method showed substantial agreement for detection of HR HPVs (81.7%, kappa=0.767 / 88.3%, kappa=0.767, p-value< 0.001). And the Cervista™ HPV 16/18 test also showed substantial agreement with the HPV 4 ACE in the detection of HPV 16 and HPV 18 genotypes (89.5%, kappa=0.628, p-value< 0.001). Also, in correlation with cytologic results, the sensitivities and specificities of the Cervista™ HPV HR test and the HPV 4 ACE were 84.5% vs. 91.4% and 72.7% vs. 73.4%, respectively, when those higher than low-grade squamous intraepithelial lesions were regarded as abnormal cytology. The viral load of HC2 was difficult to find to the exact cut-off value to expect cervical intraepithelial neoplasia (CINs). On the other hand, HPV genotyping tests for HPV 16/18 predicted CINs better than HPV DNA tests for HPV HR (28.6-66.7% vs.21.5-25.9%).

Conclusions: The the Cervista™ HPV assays and the HPV 4 ACE test had substantial agreement with type-specific PCR. And those tests are clinically valuable tools for the detection of high-risk HPVs and for genotyping of HPV 16 and HPV 18.
RESULTS OF VACCINATION BY “GRANDASIL” AFTER LASER VAPORIZATION AND CONISATION IN REPRODUCTIVE AGE PATIENTS WITH HSIL (OPEN CONTROLLED TRIAL)

Nino Museridze, J. Kristesashvili, L. Nadareishvili, M. Goglidze

Zhordania Institute of Human Reproduction, Tbilisi, Georgia

Estimation of effectiveness of vaccination by “Grandasil” for HPV prevention after surgical treatment of patients with high grade intraepithelial lesion HSIL-CIN 2 and Human papilloma virus (HPV) infection.

145 patients with HSIL-CIN 2 were investigated. All patients with HSIL-CIN 2 were treated by Co2 Laser Conisation and vaporization. Vaccination by “Gardasil” was recommended. I study group includes 53 patients who agreed vaccination after surgical procedure and before having sex. II study group includes 92 nonvaccinated patients. Both groups controled by PAP smear, colposcopy and PCR detection of HPV (type- 6, 11, 16, 18, 31) infection after surgical treatment with 3 month intervals during 1 year.

No HPV induced lesion was revealed in I study group during 1 year. In 2nd group found cases of HPV induced lesion: After 3 months in 5.6 % by colposcopy: TZ, acetowhite epithelium. In Pap smear HPV induced lesions were not revealed, PCR (16, 18) were positive. After 6 months in 7.5% by colposcopy: TZ, acetowhite epithelium, flat condyloma. In Pap smear LSIL-CIN 1- HPV, PCR were positive. After 9 months in 11.3 % by colposcopy: TZ, acetowhite epithelium, fine punctuation. In Pap smear LSIL- CIN 1-HPV, PCR were positive. After 12 months in 22.6 % by colposcopy: TZ acetowhite epithelium, punctuation, mosaic. In Pap smear LSIL-CIN 1- HPV, PCR were positive. HPV induced lesion was statistically significant at 6, 9 and 12 months.

According to the above we suppose vaccination by “Gardasil” after laser surgery of intraepithelial lesion may reduce HPV reinfection.
RADICAL HYSTERECTOMY FOR POST CHEMORADIATION RESIDUAL CERVICAL CANCERS

Rema Prabhakaran Nair

Division of Gynecology Oncology, Regional Cancer Centre, Thiruvananthapuram, India

Background: Residual cervical cancers after primary treatment with chemo radiation continue to be a clinical dilemma. For these patients surgical salvage may be the only therapeutic approach with long term disease free survival.

Aim: To evaluate the impact of radical hysterectomy on survival in patients with residual cervical carcinoma after chemoradiation and to assess the associated morbidity.

Methods: All patients who underwent radical hysterectomy with bilateral pelvic lymph node dissection for residual cervical cancer after concomitant chemoradiation from January 2004 to December 2008 were included in the study. Patients were followed up till August 2010. Survival data used for analysis was calculated from the date of surgery to date of last contact or death. Survival estimation was done by Kaplan Meier method. Surgical morbidity was assessed using the Chassagne grading system.

Results: Between 2004 and 2008, 38 patients underwent the surgery. The mean age of the cohort was 42 years (range: 29-60 years). Histological type was squamous cell carcinoma in 31 and adenocarcinoma in 7 patients. The median follow up time was 49 months. The 5 year overall survival was 88.5%. No post operative mortality was observed. Early complications were seen in 39% of which the most common was infections of the urinary tract. As far as long term morbidity was concerned, there were 12 complications of which 5 were of grade 2 severity.

Conclusion: The results of this small series seem to suggest that radical hysterectomy can be done for residual tumours after chemoradiation with long-term survival benefit and acceptable morbidity.
MICRONUCLEUS (MN) ASSAY TO TRIAGE BORDERLINE PAP SMEARS FOR SCREENING OF CERVICAL CANCER

Deeksha Pandey¹, S. Puttreddy², S. Rao³, M. Pai¹, L. Rai¹, P. Kumar¹
¹Obstetrics & Gynecology, ²Kasturba Medical College, Manipal University, ³Radiobiology, MLSC, Manipal University, Manipal, India

Background: After popularization of Pap test, incidence of carcinoma cervix and associated mortality, perceived a definite drop down. Unfortunately around 30% of new cervical cancer cases occur in women who had religiously undergone regular Pap test with no abnormal results (Sawaya GF. Obstet Gynecol 1999). This is attributed to low sensitivity (overall 55%), low reproducibility and subjectivity of the test.

Objective: To find out relation between micronucleus (MN) frequency and Pap smear suspected, biopsy confirmed premalignant and malignant lesions.

Material and methods: A total of 191 women undergoing routine Pap test and those with primary carcinoma of the cervix were included in the study. 169 samples were included for final analysis (normal: 119, premalignant: 18, carcinoma: 33). A thin smear was stained with acridine orange and 1000 cells/slide were counted under fluorescent microscope. Number of MN cells and total number of MN were recorded. For final analysis MN cell ratio and total MN ratio was calculated.

Results: MN cells as well as the total number of MN showed increasing trend towards malignization. By ROC curve analysis, for MN cell ratio of 0.1999, sensitivity was 91.4% with a specificity of 82.8%. Similar results were obtained when total MN ratios were analyzed. Advantage of combining both the ratios together does not confer any additional benefit.

Conclusion: MN assay can be a helpful triage tool in conjunction with conventional Pap test for screening of cervical cancer, till validation of better molecular or genetic (epigenetic) biomarkers is awaited.
PREGNANCY WITH CERVICAL CANCER MANAGED AT B. P. KOIRALA MEMORIAL CANCER HOSPITAL, NEPAL

Jitendra Pariyar¹, B. Shrestha¹, L. Wang¹, S. Shrestha², S.M. Pokhrel³

¹Gynecologic Oncology Unit, ²Radiation Oncology, B. P. Koirala Memorial Cancer Hospital, ³Gynaecology and Obstetrics, College of Medical Sciences (CMS) Teaching Hospital, KU, Bharatpur, Nepal

Background: Cervical cancer, the most common malignancy in females, has rare occurrence during pregnancy (0.05%). In the first and early second trimesters, patients are treated as nonpregnant women and termination is advised. In selected cases neoadjuvant chemotherapy has been tried and few such cases have been reported. We report two cases of pregnancy with cervical cancer managed at B. P. Koirala Memorial Cancer Hospital.

Case report: A 30-years’, gravida-3 para-2, at 34 weeks’ gestation, presented with antepartum hemorrhage. Detail workup showed she had FIGO stage IIB adenocarcinoma of cervix. Conservative management was decided for further fetal growth and maturity. After 2 weeks she had second episode of hemorrhage and was taken for emergency cesarean section with hysterectomy and pelvic lymph node sampling was performed at 36 weeks and a healthy baby delivered. Four weeks later concurrent chemo-radiation therapy was delivered. She had recurrence one year after treatment and died while on chemotherapy.

A 30-years’, gravid-4 para-3, presented with vaginal bleeding and two months’ amenorrhea. Detail workup showed she had FIGO stage IIIIB adenocarcinoma of cervix with 7 weeks’ pregnancy. Counseling about treatment and fate of pregnancy, EBRT was started, 20 fractions after which, missed abortion and spontaneous expulsion of the fetus and placenta occurred. After complete delivery of EBRT and brachytherapy she underwent extrafascial hysterectomy for central residual disease. Six months later she had recurrence and is on palliative treatment.

Conclusion: Pregnancy with cervical cancer is rare; management is very challenging and the treatment outcome is often guarded.
ROLE OF HIGH-RISK HUMAN PAPILLOMAVIRUS TESTING IN THE SCREENING AND MANAGEMENT OF CERVICAL CANCER PRECURSORS

Dong Choon Park¹, S.G. Yeo²

¹OBGYN, St. Vincent's Hospital, The Catholic University of Korea, Suwon, ²East-West Medical Research Institute, Kyung Hee University, Seoul, Republic of Korea

Objectives: To evaluate the efficacy of HPV test using Hybrid Capture II method in women whose Pap test indicated abnormal result.

Material and methods: Randomly selected 9885 women from the St. Vincent Hospital at The Catholic University of Korea were performed HPV test and underwent LEEP who showed abnormal Pap test. The HPV, in vitro hybridization assay (HC II HPV DNA test, Digene), testing for high risk type (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68) of HPV was performed, and the results were compared with follow-up biopsies.

Results: Among the 9885 women 7128 women showed HPV test negative and 2757 women showed HPV test positive. Three-hundred fifty women who showed abnormal Pap test were performed LEEP. Among them the positive rate of HPV test is 96% (339/350). This included 20 women with negative, 160 women with inflammation, 16 women with CINI, 48 women with CIN2/3, 74 women with CIS, and 16 women with cervical cancer, and other 16 women with cervical benign lesions such as cervical poly. The sensitivity of the HPV testing for predicting worse than high-grade cervical intraepithelial neoplasia (CIN 2/3) also increased with higher grades of cytology diagnoses. A positive predictive value of 40.7%, and negative predictive value of 100% for predicting worse than CIN 2/3 lesion were observed in the abnormal Pap test group.

Conclusion: Using the HPV test with Pap specimens, the HPV has the sufficient sensitivity and HPV is useful tool for predicting CIN or cancer.
FIGO STAGE IIB-IIIB SMALL CELL NEUROENDOCRINE CARCINOMA OF UTERINE CERVIX: REPORT OF TWO CASES

Slavica Veljanoska Petreska, O. Arsovski, V. Klisaroska, E. Lazareva, V. Krstevska

Department of Gynecologic Oncology, University Clinic of Radiotherapy and Oncology, Skopje, FYR Macedonia

Aims: Small cell neuroendocrine carcinoma (SCNC) of the uterine cervix is a rare variant with features of high aggressiveness. The incidence of SCNC in uterine cervix is approximately 0.8% among all types of cervical cancers and is very difficult to manage. It is often diagnosed at an advanced stage and its prognosis is generally poor. A few reports indicate that early failure of aggressive multidisciplinary treatment is common. Neoadjuvant or adjuvant chemotherapy should be combined with radiation therapy and surgery, even in early stages. Nevertheless, due to the low prevalence of these tumors, the best treatment has not yet been determined. Two cases of SCNC of the uterine cervix are reported. We describe the clinical course, diagnostic methods, treatments applied and survival.

Methods: Patient B.B. at the age of 58 years and patient L.N. at the age of 41 years, referred to our Institution in good performance status, ECOG=0, for postoperative adjuvant treatment. Their operation was finished as radical hysterectomy and bilateral salpingoophorectomy plus pelvic lymphadenectomy. Histopathologic findings showed SCNC with characteristic immunohistochemical markers (chromogranin A, synaptophysin and neuron specific enolase) pTNM-pT2B pN1 Mo G3 Stage IIIB; pTNM-pT2B pNo Mo G3 Stage IIIB

Results: They received 5040 cGy in 28 fraction of external beam radiation to the pelvis. They were concurrently treated with six cycles of Etoposide 100 mg/m2 iv on days 1-3 plus Cisplatin 60 mg/m2 on day 1, given every 21 day. Laboratory findings were in referent ranges, thus allowing the use of this chemotherapy regimen.

Conclusions: In the absence of randomized prospective trials, or established guidelines, due to rareness of SCNC in uterine cervix, we believe that aggressive combination therapy of surgery, chemotherapy and radiotherapy is effective for durable remissions and good quality of life.
DETECTION OF HUMAN PAPILLOMAVIRUS INFECTION BY MOLECULAR TESTS IN PATIENTS WITH CERVICAL DYSPLASIA AND INVASIVE CERVICAL CANCER IN SAUDI ARABIA

Khalid Sait
Kauh, Jeddah, Saudi Arabia

Objectives: Essentially all cases of cervical cancer are caused by infection with oncogenic types of human papillomavirus (HPV). The aim of this study to determine the the actual HPV subtype that present in cervical dysplasia and invasive disease in Saudi population

Methods: A prospective study was conducted at KAUH during the period of March 2007 to December 2008. mean age 48.18 years, who attend the KAAU Hospital for cervical biopsy due to the suspected diagnosis of cervical dysplasia or invasive disease, based on previous suspicious Pap smear. HPV DNA Hybridization by Hybrid Capture 2 (HC2) was performed on cervical biopsies of these patients for the detection of HPV infection.

Results: There were 45 patients had cervical biopsy taken for HPV testing. Seven patient were excluded because there found to have no cervical dysplasia on final pathology review. We had 17 cases with cervical dysplasia and 21 patients with invasive disease. Mean age was 48 years. The results obtained by HC2 were positive in cervical dysplasia, invasive disease and overall in 5 (29.4%), 13 (61.9%) and 18 (47.4%) respectively.

Conclusions: The use of molecular detection of HPV DNA by HC2 in biopsy is feasible and effective. Although our sample size is very small, our results confirm the finding that HPV contribute to the etiological factor of cervical cancer in Muslim society. the presence of other factor or subtype of this virus in all other cases of cervical cancer in our society.
IS THERE ANY ROLE FOR HUMAN PAPILLOMAVIRUS IN SALIVA? : CURRENT EVIDENCES, AND FUTURE PERSPECTIVES

Manizheh Sayyah-Melli1, M. Kazemi-Sheshvan2, M. Bonyadi2, E. Oulaehaebmadarek1, M. Jafary-Shobeiry1, P. Mostfa-Gharaboghi3

1Women's Reproductive Health Research Center, 2Tabriz University of Medical Sciences, 3Department Obstetrics and Gynecology, Tabriz University of Medical Sciences, Tabriz, Iran

Objective: To determine the humanpapilloma virus (HPV) subtypes in the saliva of women with concurrent HPV related genital lesions.

Methods: In a cross-sectional study, 104 women with documented genital HPV related lesions and known HPV status were selected and examined for the HPV subtypes in the salivary specimens from 2006-2009, Tabriz, Iran. HPV were genotyped with the polymerase chain reaction (PCR) assay for detecting HPV DNA of 16, 18, 31, 33, 6 and 11 HPV subtypes. Overall 1248 sample evaluated. Statistical analysis was performed using descriptive statistic and Fisher’s exact tests for the assessment of association, Chi square and independent samples t-test to compare the groups. P value less than 0.05 was considered statistically significant.

Results: HPV type 16 was the most frequently detected subtype in the saliva (29.8 %,), and cervix (24%). There was significant association between the saliva and cervix to have co-infection (sensitivity, 67.74%, and specificity, 61.64%) (P=0.009). There was also significant association between the viral types of salivary and cervical+ vulvar samples (sensitivity; 69.23%, specificity; 89.74%) (P< 0.001), and salivary and vulvar samples (sensitivity; 67.74%, specificity; 61.64%) (P=0.001). There was significant difference between the cervical and vulvar samples for the viral subtypes (P< 0.001).

Conclusion: The results showed that by far high risk HPV (hrHPV) 16 is the most common simultaneous HPV subtype in the saliva and cervix. Finding the HPV subtypes in saliva may provide facility to recognize the genital persistent infection. Enhanced viral analysis will help to recognize the high risk population.
INSULIN-LIKE GROWTH FACTORS AND ITS ASSOCIATION WITH HPV STATUS IN ADVANCED CERVICAL CANCER

Alpana Sharma¹, R. Khan¹, M. Sharma²

¹Biochemistry, All India Institute of Medical Sciences, ²Radiotherapy, Maulana Azad Medical College, New Delhi, India

Background and aims: About 15% of human cancer can be attributed to virus infection, and viruses are second only to tobacco as a risk factor for cancer. Human papillomavirus (HPV type 16 & 18) infection is the most common cause of cancer cervix (CaCx). There are evidences that components of the insulin-like growth factor (IGF)-signaling pathway are involved in development and progression of cancer. Therefore, the aim of this study was to investigate the expression of IGFs at the circulatory as well as tissue level and their correlation with HPV status in advanced CaCx.

Methods: 50 patients with advanced CaCx (FIGO IIIa - IVa) and 50 healthy controls were enrolled. Circulating levels of IGF-1 and 2, Insulin Growth Factors binding protein-3 (IGFBP-3) were measured by ELISA. The mRNA and protein expression of growth factors in tissues of patients were further detected by RT-PCR and Western Blotting. Data was analyzed statistically.

Results: Levels of IGF-1 & 2 showed significant increase, whereas IGFBP-3 showed significant decline in patients as compared to controls. RT-PCR and Western Blotting analysis showed increased expression of IGF-1 & 2 whereas decreased expression was found for IGFBP-3. The pattern of increase in IGF-1, 2 and down-regulation of IGFBP-3 also showed significant correlation with HPV status.

Conclusion: Increased expression of IGFs and decline in IGFBP-3 expression might facilitate the continued proliferation and inhibit the apoptosis of CaCx cells. This study further suggests that levels of IGF-1 and 2 or IGFBP-3 might prove useful biomarkers for assessing risk of CaCx development.
HAEMOSTATIC CHEMOTHERAPY IN BLEEDING CANCER CERVIX

Manoj Sharma¹, A. Sharma², R. Arora³, A. Abhishek¹, K. Sharma¹

¹Radiotherapy, Maulana Azad Medical College, ²Biochemistry, All India Institute of Medical Sciences, ³Department of Obstetrics & Gynaecology, Maulana Azad Medical College, New Delhi, India

Background and aims: Haemostatic chemotherapy seems to be a sure answer for bleeding advanced stage cancer cervix patients when radiotherapy or interventional radiology is not instantaneous. The aim of this study is to achieve effective haemostasis and long term survival in these patients.

Material and methods: 60 fresh uncontrolled bleeding cancer cervix cases (IIB/ III and IV A) were included in this study. The retronalysis was divided in two groups,

- A (n=30) Haemostatic RT (300 Cgy - 450 Cgy in 3/2 fractions)
- B (n=30) Hemostatic Chemoinfusion- (5Fu 350mgD1-5 CDDP30mg D1-4 BLM 10 mg D1&D5 /m²)

Endpoint haemostasis, Symptomatic Relief, Tumour Regression, Bowel/Bladder symptomatology and Confidence were observed.

Results: “The III Day “:

- Startling instantaneous haemostasis in 90% of Chemogroup as compared to 50% in RT group.
- Pain relief in 70% in chemo group when compared to 20% in RT Group.
- Rise of Hemoglobin to 10 gms%. Hemostatic Chemotherapy group 80%. RT group 30 %.
- Long-term survival for this locally advance disease was 60% for Chemo group (Neo Adjuvant and Post RT Adjuvant) as compared to 25 % in RT group that initiated as palliative RT - proceeding to complete RT.

Conclusion: Advantages Haemostatic Chemotherapy: As Low Hb as 6 gm% can be given. All time available “Chemo” continues to achieve tumour regression that helps core extirpation. Resultant reduction in Brachytherapy dose.

CANCER CERVIX SCREENING AND TREATMENT OF PRECANCER: POPULATION VS FACILITY BASED APPROACH

Tosha Sheth¹, N. Maitra¹, S. Gandhi², S. Singh³

¹Obstetrics and Gynecology, Medical College Baroda, Baroda, ²Program for Appropriate Technologies in Health, Mumbai, ³Program for Appropriate Technologies in Health, Baroda, India

Objective: To compare population and facility based cancer cervix screening services using "Visual Inspection with Acetic acid (VIA)" followed by early treatment of precancerous lesions.

Method: Population based cancer cervix screening and treatment of pre-cancer services are being implemented in administrative block with 70000 population in Vadodara district as per the National Guidelines on Cancer Cervix Screening Programme. Women between 30-59 years of age, are mobilized to nearest PHC every Saturday for screening by trained ANM using VIA method. VIA positive women are referred to Community Health Center (CHC) for diagnosis (colposcopy, punch biopsy) and treatment (cryotherapy) of precancerous lesions. The women not eligible for cryotherapy are referred to district level facilities for management (LEEP). Treated women are followed up as per guideline.

The Gynecology department of Baroda Medical College provides facility based services on “see and treat” approach to symptomatic women attending the OPD.

Results: From Aug to Dec 2010 total 440 women were screened in population based screening approach, of which 82 (19%) were VIA positive. 56/82 VIA positive women (70%) reached at CHC for colposcopy where 16 underwent cryotherapy. At Baroda Medical College 79 women were screened of which 20 were VIA positive (25%) and also had an abnormal colposcopy. Based on the biopsy results one LEEP and one hysterectomy for invasive carcinoma was done.

Conclusion: VIA positivity rate though more in facility based had strong agreement with colposcopy results compared to population based approach, however the latter approach is accessible to larger number of women.
TISSUE VEGF EXPRESSION IN PREMALIGNANT AND MALIGNANT LESIONS OF CERVIX

Nisha Singh¹, N. Namrata¹, U. Singh¹, P. Sankhwar¹, A.N. Srivastava¹, Y. Shukla², M. Singh²

¹Dept. of Obstetrics & Gynecology, CSM Medical University, ²ITRC, Lucknow, India

Background and aims: The aim of this study was to compare the tissue expression of Vascular Endothelial Growth Factor (VEGF) in premalignant and malignant lesions of cervix with healthy cervix.

Methods: This case control study comprised of 60 cases (20 CIN & 40 Cancer cervix FIGO stage 1-4) and 30 controls (women with healthy cervix). The presence or absence of VEGF mRNA in cervical biopsy specimens was evaluated using Reverse Transcriptase Polymerase Chain Reaction.

Results: VEGF mRNA was expressed in 52.5% cases compared to only 3.3% controls. There was a statistically significant increase in the mean VEGF integrated optical density ratio from 0.2-0.5±0.14 in CIN to 0.33-0.91±0.41 in stage 1, 0.97-1.40±0.17 in stage 2, 1.10-1.60 ±0.14 in stage 3 and to 1.38-2.10±0.31 in stage 4. Mean VEGF levels in adenocarcinoma cases were higher as compared to squamous cell carcinoma cases. VEGF expression was not seen in well differentiated variants as compared to increasing mean optical density in moderately differentiated (1.072±0.473) and poorly differentiated (1.369±0.31) variants. Treatment response was poor in patients with VEGF expression as compared to those without VEGF expression (p< 0.05).

Conclusions: We conclude that VEGF mRNA expression is higher in cancer cervix compared to CIN and it increases as the stage of the disease advances suggesting that VEGF has a definite role in progression of malignancy. VEGF mRNA expression prognosticates poor treatment response of tumor.
TISSUE EXPRESSION OF VEGF AS A PROGNOSTIC MARKER IN PREMALIGANT & MALIGNANT LESIONS OF CERVIX

Uma Singh
Obstetrics and Gynecology, CSM Medical University, Lucknow, India

Aims: Vascular Endothelial Growth Factor (VEGF) being a central mediator of angiogenesis, has emerged as an important target for antiangiogenic therapy. Hence, the present study was undertaken to evaluate the tissue expression of VEGF in premalignant and malignant lesions of cervix and to assess its prognostic significance.

Methodology: This case control study comprised 60 cases (20 cases of Cervical Intraepithelial Neoplasia and 40 cases of invasive cervical cancer FIGO stage 1-4) and 30 controls (patients with healthy cervix). The presence or absence of VEGF mRNA in cervical biopsy specimen was evaluated using Reverse Transcriptase Polymerase Chain Reaction. The optical density of the gel bands was measured through a specialized software.

Results: VEGF mRNA was expressed in 25 out of 60 subjects in the study group (52.5%) while only 1 out of 30 controls (3.3%) showed presence of VEGF. Mean Integrated Optical density ratios of VEGF/GAPDH were calculated which ranged from 0.20-0.50 ± 0.141 for the CIN group and 0.33-2.10±0.366 for cases with invasive cancer, the difference came out to be statistically significant (p=0.016). There was a statistically significant increase in the mean integrated optical density ratio from CIN to stage 1, stage 2, stage 3 to finally stage 4.

Conclusion: It can be concluded that VEGF mRNA expression is higher in cancer cervix compared to CIN and it increases as the stage of the disease advances suggesting that VEGF has a definite role in progression of malignancy. Further VEGF mRNA expression prognosticates poor treatment response of tumor.
THE COMPARISON OF THE QUALITY OF PAP SMEAR WITH THE ANATOMICAL SPATULA METHOD AND THE COMMON METHOD (SPATULA-CYTOBRUSH)

Marzieh Soleimani, K. Abdali, M. Khajeii, H. Tabatabaee, V. Komar
Midwifery, Najafabad Eslamic Azad University, Esfahan, Iran

Objectives: Cervical cancer is the third most common cancer in women in the world. Papanicolaou smear is known as a standard test for cervical cancer screening; however, the most important challenge is high rates of false negative results. Several factors contribute to the incidence of false negative results and one the most important factor is inappropriate tool of sampling. The aim of this study was to compare the quality of smears obtained by either anatomical spatula or spatula-cyto brush.

Methods: One hundred married women participated in this single blind clinical trial. After all participants were interviewed, two samples were obtained from every participant: one with spatula-cytobrush and another one with anatomical spatula. All slides were encoded and were assessed by two pathologists. Then, data were analyzed by means of kappa coefficient.

Results: Cell adequacy was 96.1% in anatomical spatula method and 91.2% in spatula-cyto brush method (p= 0.016). The rates for endocervical cells and metaplasia cells in anatomical spatula method were 70.6% and 24.5%, respectively; although, these amounts were 69.6% and 24.5%, respectively, in the spatula-cytobrush method (p < 0.001). No one reported pain and the amount of bleeding was 38.2% in both methods (P>0.05). In addition, there was not statistically significant differences between methods regarding infection and inflammatory reactions (p>0.05).

Conclusion: Based on the findings of this study, the results of sampling with anatomical spatula were more acceptable and better than those of spatula-cytobrush sampling.
THE RATIO OF ADJUVANT RADIOTHERY/RADIOCHEMOTHERAPY AFTER RADICAL HYSTERECTOMY TO PATIENTS WITH CERVICAL CANCER STAGE IB

Eunseop Song, H. Jeong, J. Park, W. Lee
Obstetrics and Gynecology, Inha University Hospital, Incheon, Republic of Korea

Objective: To know the ratio of adjuvant radiotherapy/radiochemotherapy (ART) after radical hysterectomy (RH) to patients with cervical cancer stage IB

Methods: In a single institution, medical records were reviewed retrospectively from July 1998 to August 2010 to find the patients who underwent RH. Any patient who underwent radiotherapy was enrolled to ART group regardless of chemotherapy.

Results: There were 84 patients with cervical cancer stage IB. There were 67 patients (79.8%) with stage IB1, and 17 patients with stage IB2. 63 patients (75.0%) with stage IB underwent ART. Among stage IB1, 20 patients (29.9%) underwent RH and 47 (70.1%) did ART. Among stage IB2, 1 patients (5.9%) underwent RH and 16 (94.1%) did ART. Among stage IB1, one 57 year old patient died of cervical cancer 4.4 years after RT. Among stage IB2, one 41 year old patient died of cervical cancer 0.1 year after ART. Among stage IB2, glassy cell carcinoma of cervix recurred 1.5 years ART to 32 year old patient.

Conclusion: As the sampling size was small and data came out from a single institution, it is hard to draw a conclusion. But ART had been used 75% to patients with stage IB, strict criterion for ART should be made with solid evidences to reduce ART.
HIV TESTING AND COUNSELING SERVICES AMONG CONFIRMED CASES OF INVASIVE CERVICAL CANCER PATIENTS AT TIKUR ANBESA SPECIALIZED TEACHING HOSPITAL

Yoseph Techane¹,², K. Kiros², J. Mohammed³, B. Zergaw⁴

¹Ethiopian Society of Obstetrician & Gynecologists, ²Obstetric and Gynecology, Addis Ababa University, ³Management Science for Health, ⁴Addis Ababa University, Addis Ababa, Ethiopia

Introduction: Low- and middle-income countries, which are hardest-hit by HIV, historically have a very high prevalence of human papilloma virus(1). In Ethiopia much has not been done on cervical cancer and HIV co-infection.

Objective: Determine HIV status among confirmed cases of cervical cancer. Identify factors associated with low uptake of HIV counseling and testing (CT) services. Provide recommendations for integrated responses & baseline information for further studies.

Methodology: This study applies both quantitative and qualitative methods including structured questionnaire, secondary data reviews & key informants interviews. Random and systematic sampling methods were applied.

Findings: Of the 225 participants of the study 52% don’t know their HIV status. Among those who had undergone HIV testing 86.5% and 13.5% are negative and positive respectively. Among those who had HIV testing only 4.8% had history of Pap Smear screening & only 7.1% of those HIV positive cervical cancer patients have undergone one time Pap smear tests and meanwhile only 2.2% of those HIV negative cervical cancer patients had Pap smear screening twice. Qualitative data revealed that low uptake of HIV CT services could be associated with low level of awareness and , economic capacity of clients ; poor coordination of efforts and motivation of providers at facilities.

Recommendations: It is important to increase knowledge of health care providers on the need to screening cervical cancer patients for HIV. Educate confirmed cases of cervical cancer about the need to undergo HIV CT. Further studies are important to explore system and policy related issues at national level.
EXPRESSION AND SIGNIFICANCE OF NOTCH-3 RECEPTOR IN CERVICAL CARCINOMA

Richa Tripathi1,2, M. Bhardwaj3, G. Rath2, A. Sehgal4

1Division of Molecular Genetics & Biochemistry, ICPO, Noida, 2Anatomy, Vardhman Mahavir Medical College & Safdarjang Hospital, New Delhi, 3Division of Molecular Genetics & Biochemistry, ICPO, Noida, 4ICPO, Noida, India

Cervical carcinoma (CC) is one of the most common cancers and a leading cause of death among women worldwide. Notch signaling pathway is one of the candidate signaling pathways that has been recently being explored, as its deregulation has been linked to the development of cervical carcinoma. The purpose of this study was to evaluate the role of Notch-3 in the oncogenesis of cervical carcinoma. Tumor specimens and adjacent non-neoplastic cervical tissues were obtained from the department of Obstetrics and Gynecology, Safdarjang Hospital, and were examined using immunohistochemistry. The statistical analysis was carried out using SPSS-10.0. Our data revealed that the expression of Notch3 receptor was significantly deregulated in cervical carcinomas as compared to non-neoplastic cervical tissues. Our findings suggest that Notch3 might play important role in the development and proliferation of Notch3 over-expressing cervical tumors and supports the hypothesis of an activation of Notch signaling. Hence, the inactivation of Notch3 may represent a new therapeutic avenue for these cervical carcinomas.
POTENTIAL OF NEOADJUVANT REGIONAL INTRAARTERIAL CHEMOTHERAPY IN TREATMENT OF CERVICAL CARCINOMA

Galina Alexandrovna Ushakova

Radiosurgical Gynecology, Russian Research Centre for Radiology and Surgical Technologies, St. Petersburg, Russia

Purpose: To study efficacy of neoadjuvant regional intraarterial chemotherapy with the use of combination of Irinotecan and Platinum derivatives for treatment of cervical carcinoma patients.

Material and methods: 36 patients with cervical carcinoma of T1b2-T3b stage received intraarterial chemotherapy as the first line therapy: Irinotecan 100 mg/m² and Cisplatin 50mg/m² or Carboplatin AUC 5. T1b2 stage was diagnosed in 3 patients, T 2a-b in 11 patients, T 3b in 22 patients. 9 initially inoperable patients with cervical carcinoma of T1b2 - T2a-b stages received neoadjuvant regional intraarterial chemotherapy and as a result they underwent radical surgery. At the second stage of treatment the Vertgame surgery was performed for them. 27 patients with T2b - T3b stages underwent combined radiation therapy at the second stage of treatment after regional intraarterial chemotherapy.

Results: Efficacy of intraarterial chemotherapy was evaluated based on gynecologic examination, data of ultrasound monitoring, MRI, morphologic study of medicinal pathomorphism. All patients had clinical tumor regression and hemostatic effect. The complete clinical effect was observed in 7 patients after the given intraarterial chemotherapy, partial effect - in 27 patients, stabilization was noted in 2 patients. In a result of morphologic study after regional intraarterial chemotherapy of medicinal pathomorphism, the first grade was seen in 6 patients, the second grade - in 22 patients, the third grade in 7 and the fourth grade in 1 patients.

Conclusions: The use of neoadjuvant intraarterial chemotherapy with Irinotecan in a combination with Platinum derivatives in cervical carcinoma patients is highly efficient.
ATTITUDE, AWARENESS AND PERCEIVED BARRIERS FOR HPV VACCINATION AMONG MEDICAL PROFESSIONALS IN INDIA

Vidhi Vanya¹, S. Bhagat¹, D. Pandey²

¹KMC, Manipal University, ²Obstetrics & Gynaecology, KMC, Manipal University, Manipal, India

Introduction: HPV immunization offers a long-term solution to cervical cancer, especially in a country like India. It however needs a lot of effort to implement this strategy successfully. Our study is the first initiative of its kind to encourage HPV immunization by finding out awareness & acceptance of HPV vaccines among an educated group responsible for implementing these strategies.

Objectives: To find out awareness & acceptance of HPV vaccination among the representative subset of medical students, nursing staff and practicing doctors in India to encourage “cervical cancer eradication through HPV immunization” by providing information & spreading education.

Material and methods: This prospective ongoing questionnaire based survey is conducted in 2 steps i) awareness exploration ii) education

Results and conclusion: The survey was conducted in 548 participants. 84.8% are aware of the preventable nature of cervical cancer and 75% know about the availability of vaccine. A statistically significant difference was there among women and men regarding the awareness of availability (81.4% vs 67.9%, P 0.005). 66.5% know about target population, only 22.7% about the need to vaccinate men, and 83.8% about the catch up programme. The ideal dose schedule is known to 39.6%. 75.9% are aware of the fact that the protection provided is only 70%. The difference is neither statistically significant among men and women, nor between various educational levels. 53.5% believe that the most important obstacle in preventing HPV vaccination is inadequate information while 25.6% think its high cost. 88.7% are keen on getting more information by experts.
CLINICAL SIGNIFICANCE OF POSITIVE CONE MARGINS IN PATIENTS WITH CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN) AND MICROINVASIVE CERVICAL CANCER

Una Vasic, M. Terzic, M. Berisavac, J. Atanackovic

Institute of Gynecology and Obstetrics, School of Medicine, University of Belgrade, Belgrade, Serbia

Objective: The aim of the study was to investigate the correlation between positive cone margins and the presence of residual disease.

Methods: This retrospective study was carried out on 120 patients who underwent conisation for cervical intraepithelial neoplasia or microinvasive cervical cancer at our institution between January 2007 and December 2010. Out of the total number of patients 79 had a subsequent hysterectomy (47 total abdominal hysterectomy, 11 hysterectomy with selective lymphadenectomy, 21 radical hysterectomy). Clinical features and pathohistologic results of conisation and hysterectomy specimens were compared. The data were analysed using chi-square test.

Results: Out of the total number of 120 patients 76 had positive cone margins (defined as the presence of CIN or microinvasive cancer at or close to the edge of a cone specimen), while 44 did not have margin involvement. Residual disease (CIN1 or worse) was found in 72% of hysterectomy specimens of patients with positive cone margins compared to 55% in patients with negative cone margins. Statistical analysis showed that parity, depth of conisation and grade of disease correlated with positive cone margins (p< 0.05).

Conclusion: Grade of disease, parity and depth of conisation were significant factors in predicting a positive cone margin, while margin status of conisation did not mean the presence or absence of residual disease.
CORRELATION OF CYTOLOGY AND COLPOSCOPIC FINDINGS IN UNHEALTHY CERVIX

Indu Verma¹, V. Jain²

¹Obstetrics & Gynecology, CMC & Hospital, ²Meditcity Hospital, Ludhiana, India

Background: Unhealthy cervix, a common finding on perspeculum examination is sometimes wrongly interpreted as cancerous or pre cancerous lesion.

Aims: To study correlation between Cytology and Colposcopy in unhealthy cervix. Confirm histopathologically findings of Pap smear and Colposcopy.

Methods: All 125 married, parous, non-pregnant patients, aged 20 to 65 years, with unhealthy cervix underwent Pap smear and Colposcopy. Colposcopic directed biopsy was taken from most atypical area of the cervix in patients with abnormal and unsatisfactory colposcopy.

Results: Epithelial cell abnormality was seen in 13.6%(17/125) on pap smear. On colposcopy 49.6% (62/125) were abnormal, 4.8% (6/125) unsatisfactory and 0.8% (1/125) suggestive of invasive carcinoma. 52.63% correlation was seen in normal pap and normal colposcopy. Inflammatory smears had 37.04% correlation with normal and 49.38% with abnormal colposcopy. Atrophic smears showed 75% correlation with unsatisfactory colposcopy. ASC-US showed 100% correlation with low grade disease on colposcopy. SIL-HPV smears showed correlation of 66.67%, LSIL smears 100% and HSIL showed high grade disease on colposcopy. Pap smear with squamous cell carcinoma had colposcopic findings suggestive of invasive carcinoma. AGC smear showed high grade disease on colposcopy. One patient with adenocarcinoma on pap smear showed high grade disease on colposcopy. Histopathology confirmed CIN-I in 9 patients, CIN-I-HPV in 2 patients, squamous cell carcinoma in one and microinvasive squamous carcinoma in one patient.

Conclusions: Best results to detect preinvasive and preclinical invasive disease are obtained by simultaneous use of cytology, colposcopy and colposcopic directed biopsies. Routinely these screening techniques should be used to evaluate unhealthy cervix
LAPAROSCOPIC NERVES SPARING RADICAL HYSTERECTOMY AND MONOPOLAR PELVIC Lymphadenectomy

Fu Jie Zhao  
Second Minimal Invasive Gynecology Department, Sheng Jing Hospital, China Medical University, Shen Yang City, China

Objective: To study the method of laparoscopic nerve sparing radical hysterectomy (LNSRH) and its effect on decreasing postoperative bladder dysfunction.

Method: Between May 2008 and June 2010, we performed 12 laparoscopic nerve sparing radical hysterectomy according to the basic anatomic landmarks of pelvic autonomic nerves, and the operating time, operating bleeding and the postoperative recovery of bladder function, et al., were assayed.

Results: The mean operating time of 12 cases was 280.17 min, the mean operating bleeding was 385 ml and the mean time of postvoid residual urine volume (PVR) ≤ 50 ml was 9.5 day (3-15 day).

Conclusion: The technique described in this study is not only minimal invasive, but is also safe, adequate, and feasible in our population with satisfactory recovery of voiding function.
MAJOR SURGERIES PERFORMED IN GESTATIONAL TROPHOBLASTIC NEOPLASMS IN A TEACHING HOSPITAL TEHRAN, IRAN

Tahereh Ashrafganjooei

Shahid Beheshti Medical University, Tehran, Iran

Objective: This study aim was to evaluate indications and outcomes of surgical interventions performed in patients with gestational trophoblastic neoplasm (GTN).

Methods: During January 1995 to December 2005, 110 patients with a diagnosis of persistent GTN were treated in our Gynecologic Oncologic Department. Risk score calculation was carried out based on the revised FIGO 2000 scoring system for GTN. Data from the patients' records and pathologic reports were analyzed by the chi-square and Fisher’s exact tests.

Results: Eight patients did not complete their treatment and were excluded from the study. We evaluated treatment responses and outcomes in 102 patients. Seventy-nine patients (77.5%) responded fully to chemotherapy while 23 patients (22.5%) required surgery. From 23 Patient who undergo surgery 43.5% had bleeding, and 56.5% had drug resistance.

The procedures included hysterectomy (18 cases), lung resection (one case), uterine wedge resection (two cases), small bowel resection (one case), and craniotomy (one case). Thirteen out of 23 patients (56.5%) were recognized as high-risk (score ≥ 7) and four of them needed more than one chemotherapy regimen. They had a higher pre-treatment risk scores (P = 0.008) as well as higher stages (P = 0.026) but no increased need to frequent use of chemotherapy (P = 0.52) or salvage chemotherapy (P = 0.074).

Conclusion: Patients in need of surgery represent increased-risk group as indicated by their high pretreatment risk scores and stages; however surgery does not seem to have any effect on more courses of chemotherapy.
CHORIOCARCINOMA IN POSTMENOPAUSEL WOMAN

A. Erdenejargal, Nyamkhuu Baasansuren, G. Baigalmaa, K. Ariunaa

National Cancer Center, Ulanbator, Mongolia

Choriocarcinoma (CC) typically occurs within 12 months of any pregnancy related situation, but literature of CC in postmenopausal women, is not well prescribed due to CC developing in patients beyond reproductive age is a rare occurrence,

Case: We report a case of CC stage 3 ( FIGO) diagnosed in 63 year old woman developing CC 8 year after menopause and 12 years after her last pregnancy.

In June 2009, the woman ,no tubal ligation was referred to the NCC of Mongolia with vaginal growth bleeding (posterior wall,lower1/3, 3-4 cm bulky necrotic growth ).

Biopsy was taken from the vaginal metastasis.

Histology of the vaginal metastasis revealed CC

Upon her first visit to our clinic, physical and gynecological examination revealed no abnormal findings in the pelvis and abdomen, except vaginal bloody growth.

HCG was 3015mlu/ml. Chest X-ray showed multiple metastatic nodules in both lungs parenchyma.

Chemotherapy administered IV (Doxorubicin 70 mg, Methotrexate 50 mg, and Cyclophosphamid 800mg ) Patient was on regular follow-up and total 6 cycles of chemo administered until present, each cycle was followed and reassessed with constant declining HCG. After 3 cycles of chemo her vaginal metastasis disappeared.

Until now she has no signs of local or systemic recurrence, her lung metastasis almost no more seen, her last HCG was 27 mlu/ml.

This case further illustrates that CC may be seen in older women after a long menopausal period. Accurate diagnosis and treatment are essential, because the tumor is very chemosensitive and curable even in advanced stages.
DIAGNOSIS AND MANAGEMENT OF PLACENTAL SITE TROPHOBLASTIC TUMOUR (PSTT) - AN EXTREMELY RARE FORM OF GESTATIONAL TROPHOBLASTIC TUMOUR (GTT)

A. Yagoub, O. Cassar, Suman Kadian

Obstetrics and Gynaecology, Stafford General Hospital, Stafford, UK

Background: PSTT is an extremely rare form of GTT forming less than 1% of cases. Less than 10 women are diagnosed with PSTT each year in the UK. It can occur as early as 1 week or as late as 17 years after abortion, normal delivery or molar pregnancy.

Case report: 27 yr old lady para1, presented early on in pregnancy. Her Beta hCG levels were 128iu and 117 iu 48 hours apart and USS showed possibility of right cornual pregnancy. Methotrexate regimen failed to resolve the pregnancy necessitating a laparoscopy. Small appendage from left tube was removed and D&C also done. Beta hCG post evacuation remained elevated. Histology surprisingly revealed PSTT.

Discussion: PSTT is composed of intermediate trophoblastic cells. It contains little syncytiotrophoblastic tissue; thus, the HCG levels are usually normal to mildly elevated. PSTT should be suspected when the β-HCG level is minimally elevated and there is either a decrease or no change of endometrial or myometrial mass or β-HCG level on follow-up studies. The diagnosis is made on the basis of findings at biopsy. 10-15 % metastasize, usually to the lungs, liver, abdominal cavity, and brain. Vaginal bleeding, is the most common symptom; it can present with amenorrhoea, galactorrhoea, nephrotic syndrome or just raised serum hCG. Poor prognostic factors include interval of >2 years from known antecedent pregnancy, mitotic count >5/10 HPF, extensive necrosis and extension outside the uterus. Generally poor response to chemotherapy is seen and most cases end up with hysterectomy.
RISK FACTORS FOR COMPLETE MOLAR PREGNANCY, A STUDY IN IRAN
Maryam Kashanian¹, H.R. Baradaran², N. Teimoori¹
¹Obstetrics & Gynecology, ²Medical Education & Development Center, Iran University of Medical Sciences, Tehran, Iran

Introduction: Complete molar pregnancy is the most common gestational trophoblastic disease. Where its incidence is different in various societies, the evaluation of its risk factors may make the reason for these differences clear.

Objective: The purpose of the present study is to evaluate some of the risk factors of complete molar pregnancy.

Method: A case-control study was performed on 91 cases of complete molar pregnancy (case group), and 295 cases of normal term pregnancy with a live neonate (control group). Then the maternal age, parity and gravidity, blood group and Rh, history of molar pregnancy, consanguinity, history of spontaneous abortion, contraception method, and race (Afghan or Iranian), were compared in the two groups.

Results: History of molar pregnancy OR, CI 95%=5.7 (1.2-25.6), spontaneous abortion OR, CI 95%=2.1(1.7-2.6), maternal age higher than 35 year old OR, CI 95%=2.3 (1.3-3.9) and lower than 20 year old OR, CI 95%=1.6 (1.4-1.9), consanguinity OR, CI 95%=1.3 (1.1-1.5), and Iranian OR, CI 95%= 1.9(1.5-2.4), were found to be risk factors for molar pregnancy.

Conclusion: History of molar pregnancy and spontaneous abortion, maternal age more than 35 and less than 20, consanguinity and race may be the risk factors for molar pregnancy.
MANAGEMENT OF PERSISTENT GESTATIONAL TROPHOBLASTIC DISEASES IN THE GYNAECOLOGY ONCOLOGY DIVISION OF BANGABANDHU SHEIKH MUJIB MEDICAL UNIVERSITY

Sabera Khatun

The Gynaecology Oncology Division of Bangabandhu Sheikh Mujib Medical University, (BSMMU) Dhaka, Bangladesh

Molar pregnancy is the commonest form of tumour arising from gestational trophoblastic epithelium. Though it is not typical pregnancy, it is called pregnancy because fertilization of an ovum is a prerequisite to be molar change of a fertilized ovum. As the tumour arises from trophoblastic epithelium either gestational or non-gestational, are potentially malignant, effective chemotherapy in earliest possible time is all that is necessary to prevent dying of a patient with molar pregnancy. An elevated level of serum β-hCG (Human Chorionic Gonadotrophic hormone) in the appropriate clinical situation is all that is required to initiate treatment with appropriate chemotherapeutic agent. These patients need very careful and timely follow up at least for 2 years to identify the right time for initiation of treatment. Keeping in mind to identify the right time of elevation of serum β-hCG a “MOLAR CARD” like antenatal card has been developed. Introduction of this Molar Card at the community level may facilitate the referral of the patients with all the information’s recorded, to appropriate center or person in appropriate time so that effective chemotherapy can be started in time.

In the Gynaecological Oncology Division of Bangabandhu Sheikh Mujib Medical University, Gestational Trophoblastic Diseases are managed in the GTD centre. In this centre total 146 patients were enrolled, among them 57 (39.04%) cases were diagnosed as Persistent Gestational Trophoblastic diseases.

Sixty five (44.05%) of the GTD cases were primigravida and 81(55.47%) were multigravida. Persistent GTD were diagnosed on the basis of rising or plateauing level of serum β-hcg which was graphically recorded in the MLAR CARD.

Among 57 persistent GTD cases 38 (66.66%) were treated by chemotherapy, 19(33.35%) treated by hysterectomy and 8(14.03%) were treated by both hysterectomy and chemotherapy. The patients are being followed up by telephonic contract.

Follow up of Molar pregnancy can lead to 100% regression of the diseases. Therefore MOLAR CARD can be an essential tool for follow-up before, during and after chemotherapy. This card can be used to select right time for chemotherapy and can be introduced in periphery level to refer the patient in right time with all the information’s recorded.

Copyright 2011 IGCS
TWIN GESTATION WITH COMPLETE HYDATIDIFORM MOLE AND COEXISTING FETUS AND ITS OUTCOME

Mozhdeh Momtahan, Z. Sarraf, M. Robati, N. Hadipour

Obstetrics and Gynecology, Shiraz University of Medical Sciences, Shiraz, Iran

Objective: The aim of this series is the evaluation of clinical features, course of disease and outcome of complete hydatidiform mole and coexisting fetus (CHM&CF)

Method: between 2004 and 2010,750 cases of molar pregnancy referred to our clinic, between them there are 3 cases of complete hydatidiform mole and coexisting fetus (CHM & CF). The gestational age at diagnosis, symptoms, β human chorionic gonadotropin, pathology and outcome were assessed.

Results: All cases were diagnosed before 14 weeks of gestation by LMP and sonography and all of them were terminated before 14 weeks because of vaginal bleeding. All cases had \( \beta -hCG \) more than 100000 IU and two had \( \beta -hCG \) more than 300000. The pathologic diagnosis of complete hydatidiform mole was confirmed. All of them persisted and needs at least 2 courses of Methotrexate (MTX) and leukoverin for remission.

Conclusion: In our study the risk of persistancy in CHM&CF is very high and needs MTX for remission. All of the cases were terminated because of vaginal bleeding and before 14 weeks of gestational age.
GESTATIONAL TROPHOBLASTIC DISEASE IN THE EAST AREA OF MADRID


Gynecology and Obstetrics, Príncipe de Asturias University Hospital, Alcalá de Henares, Spain

Objective: The objective was to analyze the characteristics and outcome of patients diagnosed of Gestational Trophoblastic Disease (GTD) and the need for adjuvant medical treatment in the population of Area 3 Madrid (Spain) from 1998 until 2010.

Methods: An analytical descriptive study was performed, consisting of 42 women, diagnosed with GTD in the Department of Gynecology and Obstetrics, University Hospital Príncipe de Asturias. The data were obtained after reviewing medical records and were analyzed statistically using SPSS 15.0.

Results: The mean age was 30 years (+ / - 5.820 SD), occurring 57.1% in multiparous. The mean gestational age at diagnosis was 11 weeks and mean beta-hCG 301,863.73 (+ / - 597.4 SD) mU / mL. In 97.6% of women curettage was performed, and only one case needed hysterectomy with double oophorectomy with the suspected diagnosis of uterine sarcoma, but ultimately became an invasive mole. Suggestive ultrasound showed hydatidiform signs in 42.9% of women. The pathologic diagnosis found that 76.2% were partial hydatidiform moles, 21.4% complete hydatidiform moles and only one case of invasive mole. Chemotherapy was needed in 4.7% of patients and 48.8% of women had a subsequent pregnancy.

Conclusions: Hydatidiform mole is an unusual disease in our area, more frequent partial and with a favorable prognosis.
AN UNUSUAL CASE OF VIABLE PARTIAL MOLAR PREGNANCY AT 22 WEEKS WHO DEVELOPED METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA

Suneeta Singh, S. Rath

Obstetrics and Gynaecology, Army Medical Corps, Indore, India

A 43 years old third gravida was diagnosed as a case of chronic hypertension during her current pregnancy. At 21st Weeks her BP was found to be 200/120 mm Hg. Uterine size corresponded to the period of gestation. She was hospitalised and hypertension was controlled with three antihypertensives. Anomaly scan: Hydatiform mole with coexisting SLIUF. Serum β HCG > 2,25,000 mIU/mL, T3: 194ng/dl (60-200), T4: 17.43 µg/dl (4.5-12), TSH: 0.03 µIU/ml (0.3-5.5).

She was counselled for hysterectomy. On cutting open the uterus a well formed male baby surrounded by molar tissue all around was seen. Histopath: confirmed partial mole. Serum β HCG fell to 54,325 mIU/ml 48 hrs after the surgery and 8426 mIU/ml one week postop. Blood pressure also came under control without any medication. Serum β HCG on day 20 was 8540 mIU/ml. A small paraurethral nodule was seen which bled on touch.

In view of the plateauing of serum β HCG values and the vaginal nodule, a diagnosis of persistent gestational trophoblastic disease with metastasis was made and a thorough metastasis workup was done. Haematological and biochemical parameters were within normal limit. USG abdomen and pelvis - NAD. CT scan chest showed multiple nodular mets involving both lungs with the largest mets being 2 X 3 cm.

A diagnosis of Gestational trophoblatic tumour with metastasis was made. As she required multiagent chemotherapy she was transferred to CH (CC) for further management.

She underwent two cycles of EMACO regime at CH (CC).
DEVELOPMENT OF A CANCER CARE TOOL TO IMPROVE CURRENT REFERRAL AND TRIAGE PROCESS (CLINICAL MICROSYSTEM)

Anita Agrawal, C. Giede

Obstetrics and Gynecology, University of Saskatchewan, Saskatoon, SK, Canada

Objective: To improve current health care delivery and reduce weight time for initial assessment of the cancer patients at the Saskatchewan Cancer Agency for safe, timely, efficient and patient-centered care.

Method: This will take in the account time from patient's initial presentation to the family doctor or other referring clinician. Input from the medical, radiation, and gynecologic oncologist's experiences in the cancer clinic, nursing and support staff's experiences in the clinic and patient experiences, comments, and suggestions, a “Cancer Care Tool” in the form of a check list, including different time lines will be developed.

Initially, a pilot study over three months to determine baseline status and then 3-6 month run-in with cancer care tool and referring clinicians' education will take place. Then this tool will be adopted and will measure outcomes over 6-12 months. Pilot study, prior to implementation of cancer care tool, will obtain pre-intervention data and will facilitate tool development. Outcome measures pre and post implementation of cancer care tool will be compared.

The following outcomes will be measured; time from initial presentation to the family doctor to time of referral to cancer agency, assessment by an oncologist, time to intervention or discharge from the cancer clinic, incidence of inappropriate referrals, patient and staff satisfaction.

Result: Currently at our centre we are assessing the feasibility of the pilot project.

Conclusion: This study will reduce weight time for initial assessment of patients at the Saskatchewan Cancer Agency, and will avoid unnecessary investigation and/or intervention in cancer patients.
AWARENESS, PRACTICES AND BENEFITS OF BREAST FEEDING IN ISRA UNIVERSITY HOSPITAL (PAKISTAN)

Ayesha Baig

Department of Gynecology and Obstetrics, Isra University Hospital, Hyderabad, Pakistan

Objectives: Several studies regarding Breastfeeding have been done at students and professional level in Pakistan and around the world. We have also done such a study in Isra University Hospital.

Aim: Our objectives were; to determine knowledge about optimum breast feeding practices, benefits of breast feeding and pre-lacteal feeds, to evaluate the awareness of breast feeding through demographic parameters and to determine the causes of failure of breast feeding among mothers.

Design: Questionnaire based hospital survey was conducted among 150 mothers, based on objectives which depended on certain variables: demographic variables like age, education, socio economical status, occupation, address. It also had questions about duration of marriage, number of kids. Study design was Cross Sectional Study and was done using SPSS.

Results: Breast feeding was initiated by 89.33% (134) of mothers. 10.67% (16) of mothers, who failed to breastfeed their babies, had mainly the reason of milk not being produced (50% proformas). Later we specifically asked the breastfeeding mothers certain questions. According to our study it was revealed that they were breast feeding their babies because breast milk is the best/balanced diet. 84% recommended breastfeeding for today's mothers.

Conclusion: According to our study Illiterate females and house wives were breast feeding more. Economically deprived mothers tended to breastfeed their babies for longer period as compared to economically well-off mothers. We came to the conclusion that awareness programs regarding correct breastfeeding practices be conducted.
PREVALENCE AND FACTORS ASSOCIATED WITH PSYCHIATRIC MORBIDITY IN BREAST CANCER PATIENTS IN ARDEBIL, IRAN

Maryam Didehdar Ardebil
Panjab University, Chandigarh, India

Background: The reported prevalence of psychological morbidity in cancer patients was high, although it varied tremendously since structured diagnostic instruments were seldom used for diagnosis in previous studies. Study in this area after the launching of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) was scarce. This study serves to estimate the prevalence of psychiatric morbidity in patients attending a gyno- uology clinic by using the Structured Clinical Interview for DSM-IV (SCID) Axis I disorders and to identify factors highly associated with psychological disorders, particularly depression which is treatable.

Methodology: Breast Cancer patients attending a gyno- uology clinic were recruited and diagnosed as cancer patients. Psychological diagnoses were made by using the SCID. Logistic regression was used to identify factors predicting overall psychiatric morbidity and depression.

Finding: Prevalence of psychological disorders in this 67-patient sample was 62.9%. Current major depressive disorder was present in 31.5% and somatoform disorders in 33.7%. Anxiety disorders and current substance use disorders each constituted 18. Younger age of onset of cancer (0.956, P< .05) and higher pain intensity (OR=1.544, P< .001) were independently associated with presence of psychiatric disorders. ( P< .05), and problems with social and leisure activities (OR=38.5, P< .05) were associated with depression.

Conclusion: Prevalence of psychological disorders in this patients clinic sample with reference to the DSM-IV was similar to that reported in previous studies. Specific factors were identified to alert pain physicians to underlying psychiatric disorders.
AWARENESS, ATTITUDE AND ACTION OF WOMEN TOWARD BREAST CANCER, IRAN
Ali Morad Hiedari Gorji1,2
1Faculty of Medicine, University Mazandaran, 2Aligarh Muslem University, Aligarh, India

Objective: Breast cancer is one of the most prevalent cancers in women. Early diagnosis has an effective role in treatment and if self-examination is periodically performed, the mortality rate will decrease. This study aimed at assessing Knowledge, attitude and performance of women toward the breast cancer.

Method: In this descriptive analytic study, 67 women (20 years old and over) were chosen by a clustered multi-stage method. The questionnaire included individual information, knowledge questions, attitude phrases, questions about performances and would be completed through interview.

Results: In this research, 37.3% of the cases had poor Knowledge, 64% had Positive attitudes and 43.5% self Examination were performed and 56% were of ill-action. There was a significant correlation between literacy, history of education about breast cancer, source of information and knowledge level (P< 0.05). There was also a significant correlation between age, marital status, history of education about breast cancer, and attitude (P< 0.05). Finally, a significant correlation was seen between literacy, cancer education, and women’s (P< 0.05). There was also a significant correlation among women’s action, knowledge and attitude.

Considering the correlation between public attitude and that the more the women were aware, the more self-examinations were performed, helpful measures are recommended to promote women’s awareness.
OVARIAN TUMOURS: A ONE YEAR REVIEW

Kirti Agrawal1,2, M. Gupta2,3

1 Obstetrics and Gynaecology, Shri Dada Dev Maternity and Child Health Centre, New Delhi,
2 Obstetrics and Gynaecology, JNMCH, Aligarh Muslim University, Aligarh, 3 Obstetrics and
Gynaecology, Baba Saheb Ambedkar Hospital Rohini, New Delhi, India

Introduction: Ovarian neoplasm is the second most common malignancy of female genital tract. They are big challenge because of their increasing incidence, high case fatality, lack of screening test and their advance stage presentation because of non specific early symptoms.

Aim: To study the incidence, clinical presentation, morphology, histopathology and management of ovarian tumours.

Methods: This retrospective study includes 70 cases of ovarian tumours managed at department of obstetrics and gynaecology, J.N.M.C. A.M.U Aligarh in one year from January 2008 to January 2009. All histologically proven neoplasm were analyzed. Non neoplastic tumour were not studied.

Results: Total 70 tumours were dealt during study period; out of this 10 were non-neoplastic ovarian lesions. Out of the remaining 60 neoplasm; 29 were benign, 29 were malignant and 2 were borderline neoplasm. Majority of benign neoplasm (65.51%) found in 21-40 yrs females, while majority (70.37%) of malignant neoplasm were seen in >40yrs old females. Most common presenting feature was pain abdomen followed by lump abdomen. The epithelial tumours were the commonest (68.96%) followed by Germ cell tumours (22.41%). Almost all of them were managed primarily surgically. Neoadjuvant chemotherapy was given in 3 cases. All malignant cases were given additional chemotherapy. Palliative chemotherapy was given in 3 cases. 7 mortalities occurred during the study period.

Conclusion: The survival depends on stage at diagnosis and type of surgery at first laparotomy. Adequate surgery in early stage tumours and proper debulking surgery in advanced stage tumours alongwith chemotherapy increases chances of survival.
GENE EXPRESSION ANALYSIS IN PACLITAXEL RESISTANT OVARIAN CANCER CELLS

L.Y. Wen¹, S.A. Ansari¹, S. Bae¹, J.H. Do¹, Woong Shick Ahn²

¹Cancer Research Institute of Medical Science, The Catholic University of Korea, ²Department of Obstetrics and Gynecology, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Ovarian cancer is currently the leading cause of death from gynecological malignances. Paclitaxel is effective agent against a variety of human tumors including ovarian carcinomas, but its efficacy is limited by the development of drug resistance in a population of surviving malignant cells. To understand mechanisms of drug resistance in ovarian cancer, we identified paclitaxel resistant related genes by comparing gene expression profiles of paclitaxel-resistant and parent ovarian cancer cell lines. Gene expression profiles of two human ovarian cancer cell lines including SKOV3 and A2780 and their paclitaxel-resistant cell lines including SKOV3Tax and A2780Tax were compared respectively (SKOV3Tax vs SKOV3, A2780Tax vs A2780) and analyzed using the Illumina HumanHT-12 v3 Expression BeadChips (Illumina). Of 11040 genes after removal of low signal genes, 1185 genes were found to be overexpressed and 983 genes underexpressed in SKOV3Tax, while A2780Tax showed 1212 overexpressed and 969 underexpressed genes. Among these genes, 1035 and 769 genes were commonly overexpressed and underexpressed, respectively, in SKOV3Tax and A2780Tax. This indicates that both cell lines might use similar molecular mechanism for Paclitaxel resistance. Especially, the genes related to biological processes such as translation, ribosome biogenesis and electron transport chain showed significant enrichment in those common differentially expressed genes of SKOV3Tax and A2780Tax. Using real-time quantitative PCR, we confirmed the array results for selected genes.
THE BENEFITS OF ULTRASONOGRAPHIC COLOR BLOOD FLOW VELOCIMETRY VERSUS SERUM LEVELS OF CA 125 IN EARLY DETECTION OF OVARIAN CANCER

Irena Andonova1,2, E. Dzikova3, G. Dimitrov1, E. Trajkovska4

1Gynecologic Oncology, University Clinic for Gynecology and Obstetrics, 2Special Private Hospital for Gynecology and Obstetrics ‘Sv.Lazar’, 3High Risk Pregnancy, University Clinic for Gynecology and Obstetrics, 4PZU. Dr. Emilija Trajkovska, Skopje, FYR Macedonia

Background and aims: To evaluate the benefits of transvaginal color Doppler velocimetry versus serum levels of Ca 125 in early detection of ovarian cancer.

Methods: 7 patients with suspicious adnexal tumor formations were examined, 26 premenopausal and 21 postmenopausal using color Doppler ultrasonography and measurement of Ca 125 serum levels. Sonographic morphology was suspicious in all cases. Cut-off value for suspicious color Doppler measurements was RI ≤ 0.45 and for Ca 125 ≥ 35UI/ml. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated and compared for both methods.

Results: 28 cases were found malignant and 19 benign. Sensitivity, specificity, PPV and NPV for color Doppler were 86%, 83%, 88% and 81% respectively, and for Ca 125 82%, 67%, 78% and 73% respectively.

Conclusions: Our results showed that Color Doppler has higher benefit than Ca 125 being significantly more specific. But the real benefit is if we conjunct both methods together thus improving the sensitivity and specificity of early detecting ovarian malignancies.
THE ROLE OF REGULAR SURVEILLANCE IN THE DETECTION OF OVARIAN CANCER RECURRENCE

Tahereh Ashrafghanjoei

Shahid Beheshti Medical University, Tehran, Iran

Objective: To evaluate the role of regular surveillance in the detection of recurrence after initial therapy for epithelial ovarian cancer.

Material and methods: From December 1995 to September 2005, 286 patients underwent surgery for invasive epithelial ovarian cancer at Gynecologic Oncology Department, Vali Asr Hospital, Tehran, Iran. Among these patients, 69 were available for the retrospective analysis. They routinely followed-up with a combination of history, examination and serum CA125 assay, and in recurrence suspicion, sonography and CT scan. Recurrence was diagnosed when at least one of the following criteria was abnormal: symptoms, physical examination or elevated serum CA125 levels.

Result: forty-one cases of invasive epithelial ovarian cancer were identified who had tumor recurrence after a median disease-free interval 11(1-51) months. The mean age was 50.4 years. Twenty-six (63.4%) of the patients had FIGO Stage III/IV disease. The median follow-up period was 23(1-80) months. At the time of diagnosis the recurrence about 80% of patients had no symptoms. Of all recurrence, 7.5% only picked up by physical examination. Gross recurrent disease confined to the intraabdominal or pelvic site. The mean operation-chemotherapy interval was 29(11-90) days. Twenty-two patients (53.7%) first presented with raised CA 125 level. Eight first presented with symptoms and only 3 first presented with physical findings.

Conclusion: Documentation of early tumor recurrence should allow more prompt treatment of these patients, thereby increasing duration of survival. According to this study, physical examination would have limited value as part of the follow up strategy.
RISK OF MALIGNANCY INDEX IN EVALUATION OF PELVIC MASSES

Tahereh Ashrafganjooei
Shahid Beheshti Medical University, Tehran, Iran

Background and aims: The aim of this study was to evaluate the use of a Risk of Malignancy Index (RMI) based on a serum CA125 level, ultrasound findings and menopausal status in primary evaluation of patients with adnexal masses in daily clinical practice.

Methods: Between October 2008 and November 2009, one hundred and fifty one women with adnexal masses were enrolled. Ultrasound characteristics, menopausal status and serum CA 125 level were registered preoperatively, and combined into the RMI afterwards. The sensitivity, specificity, positive (PPV) and negative predictive values (NPV) of the RMI in prediction of ovarian cancer were calculated. Final diagnosis was based on routine histopathologic examination.

Results: The RMI identified malignant cases more accurately than any individual criterion in diagnosing ovarian cancer. Using a cut-off level of 238 to indicate malignancy, the RMI showed a sensitivity of 89.5%, a specificity of 96.2%, a PPV of 77.3%, a NPV of 98.4% and an accuracy of 95.4%.

Conclusions: RMI is a simple, easily applicable method in the primary evaluation of patients with adnexal masses with high risk of malignancy and forwarding to gynecological oncology centers and centralized primary surgery for suitable surgical operations. At the same time, referral of patients with non-invasive (benign and borderline) lesions would be reduced.
ORAL CHEMOTHERAPY IN RELAPSE OVARIAN CARCINOMA: USING CAPECITABINE AS MONOTHERAPY


1Department of Oncology and Hematology, Chu Hautepierre, Strasbourg, 2Oncology Department, 3Statistics Department, 4Surgical Oncology Department, Centre Leon Berard, Lyon, 5Oncology Department, Chu Besancon, Besançon, 6Oncology and Hematology Department, Chr Chambery, Chambery, 7Oncology and Hematology Department, Chu Hautepierre, Strasbourg, France

Background: Capecitabine monotherapy is active in breast and colon cancers. We evaluated its use in routine oncology practice for metastatic ovarian cancer patients.

Methods: Through a retrospective analysis, heavily pre-treated ovarian carcinoma patients receiving oral capecitabine were assessed for efficacy with CA125 measurements and RECIST criteria. Toxicity was assessed according to NCI-CTC V3.0.

Results: 43 patients from three oncologic centers were included. Patients received 1250mg/m² BID 14 on 21 days. Median number of prior chemotherapy regimen was 6 (range 1-14). Median number of capecitabine cycles was 4 (range 1-20). At treatment initiation, 93% of patients received full dose (>2200 mg/m²/d) and 7% of patients received 75% (>1600 -2200 mg/m²/d). No toxic death was reported. Grade 3-4 toxic events occurred in 10 patients (4.3%). Dose reduction varied from 80 to 50% of initial dose- was effective in 14 patients (33%).

Clinical benefit defined as complete (CR) and partial (PR) responses plus stable disease (SD) lasting ≥ 3 months was 35% (CI 95%: 21.01-50.93%). SD was observed in 11 patients (25.6%, CI 95%: 13.52-41.17%). Median time to progression was 3.2 months (range 1-17.9 months). Median follow up was 29.6 months (CI95%: 18-45%) and capecitabine regimen was definitively discontinued in 95.3% patients. At last follow-up, 18 patients (42%) were alive, and 2 patients (4.6%) were still on capecitabine treatment.

Conclusions: Oral chemotherapy such as capecitabine could be an interesting alternative for heavily pre-treated ovarian cancer patients looking for quality of life without hospitalizations.
SECOND LINE CHEMOTHERAPY IN EPITHELIAL OVARIAN CANCER: EXPERIENCE FROM A CANCER INSTITUTE OF EASTERN INDIA

Chinmay Basu

Netaji Cancer Research Institute, Kolkata, India

**Introduction:** The treatment outcome the platinum potentially resistant recurrent epithelial ovarian cancer (platinum Treatment Free Interval, TFI of less than 6 months) is often very poor. No work is done so far to obverse benefit in terms of quality of life and cost effective ratio of different mono therapy in second line setting in Indian patients.

**Material and methods:** From 2006 January to 2009 January a total of 35 platinum resistant advanced epithelial ovarian cancer cases were selected for a prospective study. Among them 21 cases came from neoadjuvant setting and other 14 cases were from adjuvant treatment group.

**Results:** Both refractory (6 cases) and resistant cases (29 cases) were randomized to receive monotherapy of Inj gemcitabine (9 cases), Inj topotecan (9 cases), Inj Doxorubicin (8 cases), Inj Docetaxel (6 cases) or oral etoposide (3 cases). Response rate was highest in Doxorubicin (37%, 3 cases) followed by gemcitabine, topotecan and docetaxel (33.3%, 3 cases in each group). 1 case in Etoposide group was responder. There was no significant difference in PFS or OS in any of the groups. quality of life was found to be better in doxorubicin and gemcitabine group. Quality adjusted life year (QALY) showed cost effective ratio (CER) to be best in etoposide followed by doxorubicin and gemcitabine group.

**Conclusion:** Doxorubicin was found to have best efficacy with good QoL and ICER. Molecular profiling may be important to increase PFS and OS as is done in recent Chinese study.
SECOND LINE CHEMOTHERAPY IN PLATINUM POTENTIALLY RESISTANT RECURRENT EPITHELIAL OVARIAN CANCER: EXPERIENCE FROM EASTERN INDIA

Chinmay Basu
Netaji Cancer Research Institute, Kolkata, India

Introduction: The treatment outcome the platinum potentially resistant recurrent epithelial ovarian cancer (platinum Treatment Free Interval, TFI of less than 6 months) is often very poor. No work is done so far to observe benefit in terms of quality of life and cost effective ratio of different mono therapy in second line setting in Indian patients.

Material and methods: From 2006 January to 2009 January a total of 35 platinum resistant advanced epithelial ovarian cancer cases were selected for a prospective study.

Results: Both refractory (6 cases) and resistant cases (29 cases) were randomized to receive monotherapy of Inj gemcitabine (9 cases), Inj topotecan (9 cases), Inj Doxorubicin (8 cases), Inj Docetaxel (6 cases) or oral etoposide (3 cases). Response rate was highest in Doxorubicin (37%, 3 cases) followed by gemcitabine, topotecan and docetaxel (33.3%, 3 cases in each group). 1 case in Etoposide group was responder. There was no significant difference in PFS (4 to 7 months) or OS (10 to 17 months) in any of the groups. Quality adjusted life year (QALY) showed cost effective ratio (CER) to be best in etoposide followed by doxorubicin and gemcitabine group with incremental cost effective ratio (ICER) higher in gemcitabine than in doxorubicin in comparison to etoposide.

Conclusion: Doxorubicin was found to have best efficacy with good QoL and ICER. Molecular profiling may be important to increase PFS and OS as is done in recent Chinese study.
A STUDY OF 173 CASES OF OVARIAN TUMORS
Ambarisha Bhandiwad
Obstetrics and Gynaecology, JSS Medical College, JSS University, Mysore, India

Aim and objective: To study about the clinicopathological pattern of ovarian tumors.

Methods: Prospective cohort study of 173 cases of ovarian tumors among 4308 gynaecological cases. Participants: were 173 cases admitted in JSS Hospital, Mysore.

Results: Among 173 cases, 71.09% were benign tumors, 4.62% were borderline tumors, 15.02% were malignant tumors and 8.67% simple cysts were reported. Pain abdomen (60%) was the predominant symptom. Most of them were multipara. For benign tumors peak age incidence was 41-50 yrs.(27.16%) and for the malignant tumors more than 60 yrs.(26.92%). Epithelial tumors were the most common (70.52%).

Conclusions: The peak age incidence of ovarian tumors was 41-50 yrs. Most common occurrence in multipara, epithelial tumors were the commonest one. Pain abdomen was the most common presentation.
SERTOLI-LEYDIG CELL TUMOR OF THE OVARY: A 10-YEARS REVIEW IN A SINGLE INSTITUTION

Rani Akhil Bhat, L.Y. Kuei, Y.K. Lam, C.Y. Nin

Gynaecological Oncology, KK Women's and Children's Hospital, Singapore, Singapore

Purpose: To study the incidence, clinical profile and the recurrence rate of ovarian sertoli-leydig cell tumors.

Methods: We retrospectively studied all cases of sertoli-leydig cell tumors diagnosed at our hospital and the records were reviewed to note the clinical features, treatment and follow up results between October 1998 and December 2008.

Results: Over the period of ten years fifteen cases of ovarian sertoli-leydig cell tumors were retrieved and accounted for 1.22% of all ovarian malignancies in our institution during the study period. Of the fifteen patients 66.66% were FIGO stage 1A, 20% were 1C and 13.33% were unstaged. Hormonal-related symptoms (80%) and pain (33.33%) were the main causes of first presentation. One patient has synchronous FIGO stage 1A ovarian sertoli-leydig and 1B endometroid adenocarcinoma of the uterus. Ten patients (66.66%) were advised adjuvant therapy: 9 for chemotherapy (5 moderately and 4 poorly differentiated types) and one patient for vault radiotherapy. Recurrent disease was detected in one patient (6.66%) after 34 months of follow-up. Patient with synchronous malignancy had a pelvic recurrence after 48 months and one patient had borderline serous tumor in the mesosalpinx after 58 months.

Conclusions: Sertoli-leydig cell tumor of the ovary is an uncommon neoplasm which occurs in young adults. Most of the patients present with hormonal related symptoms. Fertility sparing surgery is the first line of treatment in these young patients. Long term follow-up is advised since these tumor are known to have late recurrence.
RISK OF MALIGNANCY INDEX AS AN EVALUATION OF PREOPERATIVE PELVIC MASS IN IRANIAN WOMEN

Zinatosadat Bozari, S. Yazdani, M. Haji Ahmadi, S. Bart, Z. Shirkhani Kelagar, M. Javadian Kutenai

1Obstetrics & Gynecology, 2Member of Stem Cell Researcher Center, Babol University of Medical Sciences, Babol, Iran, 3Member of IGCS, International Gynecology Cancer Society, Louisville, KY, USA, 4Statistician, Babol University of Medical Sciences, Babol, Iran

Background and objectives: Patients with pelvic mass are a most common reasons that were referred a gynecologist. The aim of this study is determined the Risk of Malignancy Index (RMI) for preoperative evaluation of pelvic mass in our area.

Material and methods: This prospective observational study was performed on 182 women with pelvic masses referred to Yahyanejad Hospital from 2007 to 2009. Ultrasound scans were scored as one point for each of the following characteristics: multilocular cyst, solid areas, intra-abdominal metastases, ascites, and bilateral lesions. For each patient a total ultrasound score (U) was calculated. The difference of the three RMI is based on the allocation of the U and M scores. The sensitivity, specificity, positive predictive values (PPV) and negative predictive values (NPV) of menopausal status, ultrasound finding of pelvic mass and level of serum CA-125, the RMI 1, 2, and 3 were compared.

Findings: The RMI was more accurate than any individual criterion in diagnosing malignancy in pelvic mass. The RMI 1, 3 with the cut-off point of 265 had a sensitivity of 91%, a specificity of 96%, PPV of 78% and NPV of 99% for diagnosis of malignant mass. RMI 2 with the cut-off point of 354 had a sensitivity of 91%, a specificity of 96%, PPV of 78% and NPV of 99% for diagnosis of malignant mass.

Conclusion: RMI is an available method for preoperative discrimination of benign from malignant pelvic mass.
CLINICAL IMPORTANCE OF REGULATORY T CELLS IN PERIPHERAL BLOOD IN PATIENTS WITH OVARIAN CARCINOMA

Tomas Brtnicky¹, J. Lastovicka², L. Rob¹, R. Spisek²

¹Department of Obstetric and Adult and Paediatric Gynaecology, ²Department of Immunology, Charles University in Prague - 2nd Faculty of Medicine, Prague, Czech Republic

Introduction: It was discovered that patients with different types of oncological diseases have increased numbers of CD4+CD25+ regulatory T cells (Treg) in the peripheral blood. Treg participate in the control of anti-tumor immunity. Higher levels are an unfavourable factor. The purpose of experimental consolidatory therapy is to strongly decrease the numbers of circulating regulatory T cells and thus theoretically intensify natural anti-tumor immunity against persisting chemoresistant cells.

Aims of study: To confirm if the percentage of Treg correlates with the prognosis of patients with ovarian carcinoma.

To compare the effect of particular chemotherapeutics in metronomic doses on the number of Treg.

Patients and methods: We follow up 3 groups of patients. Group A: receive low dosis of cyclophosphamide. Group B: receive low dosis of etoposid. Group C (control group) without consolidatory therapy. Protocol of the study: 1. radical surgery, 2. 6-8 series of combined chemotherapy, 3. experimental consolidatory chemotherapy

Results: 32 patients is included in the study, median follow up time is six months. 4 patients suffer from early relapse of the disease. We have found normal levels of Treg in patients with consolidatory chemotherapy in contrast to patients without consolidatory chemotherapy. Before 1 relapse of the disease significant elevation of Treg was found. There was no significant difference between relapses free survival curves in patients use cyclophosphamide and etoposide.

Conclusion: Monitoring the numbers of Treg is a hopeful prognostic marker of disease development and may provide insight to both effect of primary treatment and new experimental treatment procedures.
GASTROINTESTINAL PROCEDURES IN ADVANCED OVARIAN CANCER


Department of Gynaecologic Oncology, Kidwai Memorial Institute of Oncology, Bangalore, India

Objectives: The aim of this study was to review our experience with bowel surgery during cytoreduction for epithelial ovarian cancer. We evaluated the indication and extent of surgery, and the morbidity and mortality associated with bowel surgery.

Materials and methods: One hundred and sixty five patients who underwent bowel surgery during cytoreduction for epithelial ovarian cancer were reviewed retrospectively between January 2001 and December 2010.

Results: Anterior resection was the most common procedure performed in 65 (38%) patients, the remaining include small bowel resections - 44 (27%), 28 right hemicolectomies (17%), 19 transverse colectomies (12%), 9 sigmoidectomies (5%) and 5 left hemicolectomies (3%). In majority of the patients (77%) optimal cytoreduction (< 1cm) was achieved. The mean operating time was 3.45 hours, blood loss was 750 ml and post-operative stay was 11.5 days. Major complications encountered were 19 (11%) anastomotic leaks and 11 (7%) eviscerations. There were 7 deaths (4%) within 30 days of surgery.

Conclusion: The present study indicates that to achieve optimal cytoreduction in advanced ovarian cancer, gastrointestinal procedures in a selected subgroup of patients plays an important role, in spite of the relatively higher morbidity encountered in a low resource setting.
FALLOPIAN TUBE CARCINOMA- VARIOUS TREATMENT OPTIONS
Ashok Kumar Chauhan, P. Kaur, H. Singh, M.K. Bharti

Radiation Oncology, PGIMS, Rohtak (Haryana), Rohtak, India

Introduction: The carcinoma of fallopian tube is rare, sequence of events observed in a case of fallopian tube are presented.

Material and methods: Woman of 54 years age presented in the department of Radiotherapy with history of vaginal discharge, pain and lump in the lower abdomen of 8 to 9 months. Laparotomy with preoperative diagnosis of ovarian tumor and hysterectomy with bilateral oopherectomy was carried out.

Results: The serum CA-125 was raised. Histopathological examination revealed that poorly differentiated adenocarcinoma arising from right fallopian tube was reaching upto serosa. The left fallopian tube, both ovaries and uterus showed no abnormality. She was given six cycles of cisplatin and cyclophosphamide. After 19 months and then presented with relapse of disease in the supraclavicular and lower cervical nodes on left side. The CA-125 was abnormally raised. Radiation to the nodes was given alongwith 6 cycles of Paclitaxel and Carboplatin. She achieved complete response clinically and CA-125 also returned within the normal limits. After a year the CA-125 started rising, the PET-CT detected enlarged paraaortic lymph nodes, the cytology confirmed the relapse of the disease. She was administered 6 courses of Gemcitabine and Vinorelbine and she again achieved remission. The disease again relapse after about 8 months and has been put on TKI, Geftinib and for the last two and a half year she is in remission with CA-125 within normal limits.

Conclusion: The fallopian tube carcinomas are managed on the lines of ovarian cancer and now there are newer options to manage the patients.
GERM CELL TUMOUR OF OVARY IN YOUNG GIRLS - CURRENT MANAGEMENT STRATEGIES

Heena Chawla, M.H. Mankand, P.S. Dave, B.M. Patel

Gynaecological Oncology, Gujarat Cancer and Research Institute, Ahmedabad, India

Background: Germ cell tumours account for 2-3% of all ovarian cancers and usually occur in first two decades. They are also seen in women up to 35 years of age, making fertility sparing treatment of paramount importance.

Objective: To review the outcome of treatment of malignant ovarian germ cell tumours in young patients.

Method: During last 3 years unit III of gynaec oncology at GCRI, Ahmedabad witnessed 119 cases of ovarian mass of which 5 cases were of germ cell tumours (age range 6-18 years). CASES: All 5 girls presented with mass and abdominal pain. All were histopathologically reviewed and staged according to FIGO classification (1988). One girl had mass above umbilicus with paraaortic lymph node metastases on CT scan. She was given anterior chemotherapy (BEP - 3 cycles). Unilateral salpingo-oophorectomy was done in majority 4 (80%) girls and one girl was inoperable as both ovaries and uterus formed a conglomerated mass and could not be removed. A case of dysgerminoma had dysgenetic gonads (46XX, possibility of mosaicism couldn't be ruled out). Reports of Histopathology revealed mixed germ cell tumour in 3 (60%), dysgerminoma in one, teratoma in one patient. Post operatively adjuvant chemotherapy (BEP in two, P+E in one) was given in three girls. The mean number of cycles of BEP given were 4. The follow up was done by clinical examination, ultrasonography and tumour markers.

Conclusions: Management of these patients requires consideration of fertility sparing surgery. These patients should be treated at a specialised centre because of frozen section facility as well as medical oncologist to plan adjuvant therapy.
EARLY SYMPTOMS OF OVARIAN CANCER

Galina Chibisova, V.G. Volkov

Tula Regional Cancer Center, Tula, Russia

We have made attempts to identify early symptoms of ovarian cancer in the hope that they will make possible to detect women in need of further investigation.

We have conducted a questionnaire survey of 100 women with ovarian cancer (group I or cases) and 200 healthy women (group II or controls). Analyzing the results of the questionnaires we have found 5 symptoms occurred in most of the cases a year before the diagnosis. Abdominal distention was observed in 45.3% of cases and 22.5% of controls. Over half of women in case group, 52.33%, had a record about abdominal pains, while the controls had 23.7%, and this was equally typical for women with early or advanced cancer. Abdominal pain was also present many months before diagnosis in some women.

After exclusion of final 180 days before the diagnosis, the third cancer-related symptom is (increased) urinary frequency. In our groups we obtained this symptom for 32.41% of cases and 12.3% of controls.

Increase in abdominal size was observed by 38.82% of cases and 12.3% of controls. 39.99% of cases and 17.5% of controls had intestinal gas hyperformation. Pricking, numbing, burning sensations in different parts of the body were observed by 32.94% of cases and 17.3% of controls.

Abdominal distention is a common and important symptom to be the indications for urgent investigation. We have also found that some pelvic, urinary and neurologic symptoms precede the ovarian cancer diagnosis.
Abstracts presented at the International Gynecologic Cancer Society Regional Meeting on Gynecologic Cancers

CLINICAL PROFILE OF PATIENTS OF OVARIAN CANCER PRESENTING AT TERTIARY CARE HOSPITAL

Pushpa Dahiya¹, S. Mann¹, S. Nanda¹, M. Chauhan¹, N. Dahiya²

¹Obstetrics & Gynecology, ²Pathology, PGIMS, Rohtak (Haryana), Rohtak, India

Background: Women with ovarian carcinoma experience poor survival because symptoms are vague and diagnosis is difficult at an early stage. We tried to determine the pattern of clinical symptomatology and stage of disease in women with ovarian cancer at tertiary care hospital

Methods: This retrospective study was conducted in 147 patients who attended the department of Obstetrics and Gynaecology, P.G.I.M.S Rohtak. The data collected included age, education, and socio-economic class, presenting clinical signs and symptoms. The surgical staging was done and the type of malignancy was determined by histopathological examination.

Results: Seventy nine (53.74%) patients were uneducated, 36 (24.48%) were educated upto 8th standard and remaining 32 (21.7%) were above higher secondary level. Abdominal symptoms were most common presenting symptoms (abdominal discomfort (58.2%), abdominal distension 22.4%), followed by urinary complaints (4.8%), vaginal discharge (3.6%) and postmenopausal bleeding (11%). More than half (55.8%) of the patients had stage III-IV disease at the time of hospitalization. On histology, papillary serous cystic adenocarcinoma was the most common (56%) type followed by mucinous (23.24%), endometroid (9.46%), yolk sac (3.2%), dysgerminoma (3.4%), and adult granulosa cell tumour (4.7%).

Conclusion: There are no specific ovarian carcinoma symptoms that may be the reason of late detection of the disease. Persistence of even the vague and non gynecological symptoms should alert the physician.
PRIMARY OVARIAN MUCINOUS CARCINOMA OF INTESTINAL TYPE: SIGNIFICANCE OF PATTERN OF INVASION AND IMMUNOHISTOCHEMICAL EXPRESSION PROFILE IN 31 CASES

Ali Dastranj Tabrizi, Kalloger SE, Köbel M, Cipollone J, Roskelley CD, Mehl E, Gilks CB.

Pathology, Tabriz University of Medical Science, Tabriz, Iran

Primary ovarian mucinous carcinomas of intestinal type are uncommon malignancies. This study was conducted to identify all cases of primary ovarian mucinous carcinoma in a population-based registry, and to characterise their histological features, immunohistochemical expression profile, and outcome. 31 cases of primary ovarian mucinous carcinoma were included in this study. Immunostaining for 33 markers was performed. Mean age of the patients was 55.4 ± 13.5 years. Thirty tumors were stage I or II at presentation. 26/31 (83.9%) tumors had expansile stromal invasion, 4/31 (12.9%) showed destructive invasion and 1/31 (3.2%) had anaplastic carcinoma in a mural nodule. All cases with destructive invasion showed grade 3 nuclear atypia whereas only 3 out of 26 (11.5%) cases with expansile invasion had grade 3 nuclear atypia. (P=0.0003). In follow-up, six of 26 patients (23.1%) with tumors showing expansile invasion experienced a recurrence, compared to one of four patients (25%) with destructive invasion and the single patient (100%) with anaplastic carcinoma. There was CK7 positivity in 26 of 31 cases (86.7%), and CK20 and Cdx-2 were each positive in 33.3% of cases. NHERF1 staining was present in 19 of 26 cases (73%) and its expression was associated with a poor prognosis (P=0.05). Our findings support current diagnostic criteria for primary ovarian mucinous carcinoma, i.e. the presence of expansile invasion, in the absence of destructive invasion, warrants a diagnosis of carcinoma. A large majority of mucinous carcinomas show only expansile pattern of invasion and are confined to the pelvis at diagnosis.
SIGNIFICANCE OF “OPEN LAPAROSCOPY” IN DIAGNOSTICS OF ADVANCED ABDOMINO-PELVIC MALIGNANCY

Daniel Driak¹, B. Sehnal¹, K. Hurt¹, I. Vasicka¹, E. Kmonickova²

¹Department of Gynaecology and Obstetrics, ²Institute of Radiation Oncology, First Faculty of Medicine and University Hospital Bulovka, Charles University, Prague, Czech Republic

Background and aims: Ovarian cancer comprises almost a quarter of all gynaecological malignancies, however attributes to almost half of their mortality. 70 % of cases are diagnosed in an advanced stage of III-IV according to FIGO classification with a 5-year survival rate oscillating between 10-20 %. Several methods are used for histological diagnostics of advanced ovarian and other abdomino-pelvic malignancies, specifically - explorative laparotomy, laparoscopy, fine needle aspiration, tru-cut biopsy. The aims of the study were to analyse results with laparoscopy - open procedure performed at our department during the years 2003-2009.

Methods: A total of 31 patients underwent laparoscopy - open procedure at our department during 2003-2009. The operative time, complications, blood loss, histological findings, and further follow-up of patients were recorded.

Results: The mean operative time was 50 minutes. There were no surgical peroperative complications, in one case an early anaesthesiological complication was registered. Out of the late postoperative complications, one dehiscence of the subumbilical incision was observed. The mean blood loss was 15 ml. Sufficient representative samples for histology were obtained in 100 % of cases. The mean period of hospitalisation following the operation was 7 days. No port-site metastasis was observed.

Conclusions: Based on our study, "open laparoscopy" might be considered a safe and minimally invasive, reliable method, sparing patients’ integrity and enabling histological verification of advanced intra-abdominal malignancies.
BORDER LINE SEROUS TUMOR OF OVARY IN A CASE OF MULTIPLE SCLEROSIS

Ali Eishi Oskuie, N. Valizadeh

Urmia University of Medical Sciences, Urmia, Iran

Background: Literature review shows that few reports exist regarding association between multiple sclerosis (MS) and cancer (Breast cancer and other cancers). We want to present development of borderline serous tumor of ovary in a female with MS.

Case report: A 39 y/o female known case of MS presented with pelvic pain since 1 month ago. Past medical history was positive for MS since 12 years ago. Drug history included solmedrol, avonex, Prednisolone, Alendronate, Vit D3. Abdominal CT scan revealed a large cystic lesion with solid components in right ovary. She was underwent Total abdominal hysterectomy and bilateral salpingo-oophorectomy. Pathologist reported serous borderline tumor of the right ovary.

Result: In this 39 y/o female with long-standing MS we found serous borderline tumor of the right ovary.

Conclusion: This is the first case of development of ovarian borderline tumor in a case of MS. The question that if long-term use of steroids or Interferon is the causative agent for development of neoplasms in MS patients or there is a possible association between MS with neoplasms needs a large randomized study to be answered.
TREATMENT OF MALIGNANT ASCITES DUE TO OVARIAN CANCER USING THE TRIFUNCTIONAL ANTIBODY CATUMAXOMAB: RESULTS OF THE PIVOTAL PHASE II/III STUDY

Mirko M. Essing¹, C. Schmidt-Rimpler¹, M. Ott², S. Parsons³

¹Medical Affairs, ²Clinical Sciences, Fresenius Biotech GmbH, Munich, Germany, ³Department of Surgery, Nottingham City Hospital, Nottingham, UK

Background: Malignant ascites is a manifestation of advanced malignancies, associated with a poor prognosis and poor survival. Catumaxomab (anti-EpCAM x anti-CD3) is the first drug worldwide approved (EU) for treatment of malignant ascites in EpCAM-positive carcinomas.

Methods: The pivotal trial was a two-arm, randomized (2:1) open-label, phase II/III study. The study population was stratified into ovarian and non-ovarian cancer patients. Patients received paracentesis plus catumaxomab or paracentesis alone (control). Catumaxomab treatment consisted of 4 intraperitoneal infusions at doses of 10, 20, 50, and 150 µg on days 0, 3, 7, and 10, respectively. The primary endpoint was puncture-free survival, defined as time to next therapeutic puncture or time to death, whichever occurred first. Main secondary endpoints were time to next therapeutic puncture, and OS.

Results: Overall, 129 patients ovarian cancer patients were enrolled. 85 pts were randomized to catumaxomab, and 44 to control. Median puncture-free survival was 52 days for catumaxomab vs. 11 days for control (p< 0.0001); median puncture-free time was 71 vs. 11 days (p< 0.0001). For OS, a positive trend was observed with 110 vs. 81 days (p=0.1543). The safety profile was according to catumaxomab’s mode of action and consisted mainly of cytokine release-related symptoms. The side effects were generally mild to moderate and fully reversible.

Conclusions: Catumaxomab treatment resulted in a clear clinical benefit for patients with malignant ascites due to ovarian carcinoma. The predictable and manageable safety profile underlines the positive benefit/risk ratio. Catumaxomab represents a new and effective treatment option in this indication.
ROLE OF RADIATION THERAPY (XRT) IN RECURRENT OVARIAN CANCER
S. Bush, N. Jegadeesh, Sharad Ghamande, M. Macfee
Medical College of Georgia, Augusta, GA, USA

Objective: To investigate the role of XRT in the treatment and palliation of recurrent ovarian cancer.

Design: A total of 28 patients (pts) with recurrent ovarian cancer were identified in this retrospective single institution study. Patients receiving whole abdomen radiation were excluded.

Results: A median dose of 45 Gy (range 15-70.2) was given to these patients, 79% of which were platinum resistant, the median number of prior lines of chemotherapy was 3 (range 1-6). 89% of the pts had pelvic recurrence. 74% were treated with a full prescribed dose of XRT that was at least 40 Gy. The entire study population had a median OS of 11.8 mo (95% CI 8.2-15.3), and a PFS of 7.4 mo (95% CI 1.7-13.1). The OS for pts given greater than 40 Gy was significantly more than those given less than 40 Gy: 18.8 mo (95% CI 0.8-36.7) and 1.2 mo (95%CI 0.4-1.9) respectively with a p value of 0.043. The PFS was also significantly longer in those treated with greater than 40 Gy 11.6 mo (95% CI 7.5-15.6) compared to 1.2 mo (95% CI 0.4-1.9) with a p value of 0.018. Radiation was relatively well tolerated with few complications: 7 pts with radiation enteritis grade 1/2, 2 cases of radiation cystitis, 1 case of sacral insufficiency fractures, and 1 case of lymphedema.

Conclusion: Our study shows that using XRT in select pts with recurrent platinum resistant ovarian cancer can be an effective modality yielding lasting results.
OUTCOME ANALYSIS OF ADVANCED OVARIAN CANCER: STUDY AT A TERTIARY CARE CENTRE IN SOUTH INDIA

Tejal Kishor Gorasia\textsuperscript{1}, D.S. Khadakban\textsuperscript{1}, D.K. Vijaykumar\textsuperscript{1}, K. Kumar\textsuperscript{2}, S. Kuriakose\textsuperscript{1}
\textsuperscript{1}\textit{Surgical Oncology, }\textsuperscript{2}\textit{Medical Oncology, Amrita Institute of Medical Sciences, Kochi, India}

Introduction: Ovarian cancer is the 4th most common cause of cancer related death in women in India. This study evaluated various prognostic factors in patients with epithelial ovarian cancers (EOC) who have undergone either neoadjuvant chemotherapy (NACT) and interval debulking or upfront surgery followed by adjuvant chemotherapy.

Design: Prospective study.

Aims and objectives: To evaluate and compare various prognostic factors in patients with EOC who have undergone either primary surgery followed by adjuvant chemotherapy or NACT followed by interval debulking.

Methods and results: 122 patients with epithelial ovarian cancer between 2004 to 2007 were analysed by univariate and multivariate analysis. 65 had undergone a primary surgery and 57 received NACT. The prognostic variables associated with survival were studied. Patients who underwent NACT had a higher rate of optimal debulking (87% vs 53%) compared to those undergoing a primary surgery, however it did not translate into a better survival. The progression free survival (PFS) and Overall Survival (OS) in patients receiving NACT was 25 and 42 months respectively, while it was 31 and 55 months in patients undergoing a primary surgery. However patients who had suboptimal debulking, irrespective of primary treatment, had significantly worse PFS (15 vs 33 months) and OS (23 vs 63 months) compared to those who had optimal debulking.

Conclusions: Patients with advanced EOC who are treated with NACT followed by interval debulking have comparable survival to the patients undergoing primary surgery. Suboptimal debulking, advanced stage and higher grade are associated with poorer survival.
PHASE II STUDY OF INTRAPERITONEAL CHEMOTHERAPY IN INOPERABLE EPITHELIAL OVARIAN AND PRIMARY PERITONEAL CANCERS

Tejal Kishor Gorasia¹, D.S. Khadakban¹, S. Kuriakose¹, D.K. Vijaykumar¹, A. R¹, A. Majeed²

¹Surgical Oncology, ²Medical Oncology, Amrita Institute of Medical Sciences, Kochi, India

Introduction: Many large prospective phase III clinical trials have shown survival advantages for patients receiving Intraperitoneal chemotherapy (IPCT) vs Intravenous (IV) chemotherapy (CT) for the treatment of optimally cytoreduced, advanced Epithelial ovarian cancer (EOC) and Primary peritoneal Cancers (PPC). Inspite of this, IPCT continues to await universal acceptance as first-line treatment for advanced EOC. This is due to increased cost, inconvenience of inpatient administration, and the potential for increased toxicities and catheter complications. We conducted this study to know the feasibility of IP Therapy in Indian patients with ovarian cancers via deferent IP administration techniques.

Aims and objectives: To evaluate the safety of IP chemotherapy in patients with inoperable Epithelial Ovarian and Primary Peritoneal Cancers

Materials and methods: This is a Phase II study and data was collected directly from patients during NACT, findings during surgery, pathological response, toxicity due to IP catheter and therapy, and Quality of life (QOL) after IP therapy were assessed.

Results: Major toxicities noticed in patients with IP catheter were blocked catheter, sepsis, abdominal pain, intestinal obstruction and peritoneovaginal fistulae. Direct puncture technique was without any toxicity related to the procedure. QOL was better in patients who received IPCT through direct puncture (n=7) compared to chemotherapy using IP catheter [n=8]. (P value less than 0.001).

Conclusions: Intraperitoneal chemotherapy by direct puncture technique is feasible without any major catheter related toxicities even in the postoperative setting after six cycles of chemotherapy. This is practically possible to deliver in India.
A PROSPECTIVE COMPARISON OF PERI-OPERATIVE MORBIDITY IN ADVANCED EPITHELIAL OVARIAN CANCER: PRIMARY VS INTERVAL CYTOREDUCTION

Surgical Oncology, Amrita Institute of Medical Sciences, Kochi, India

Introduction: Epithelial Ovarian Cancer (EOC) most commonly presents at an advanced stage. Optimal debulking with adjuvant platin based Chemotherapy is the gold standard of management. Neoadjuvant Chemotherapy (NACT) with interval cytoreduction has been proposed by many in patients whom a primary cytoreduction is not possible.

Aims and objectives:

1. To compare peri-operative morbidity of patients with advanced EOC undergoing primary cytoreduction to patients undergoing interval cytoreduction.

2. To evaluate factors predictive of perioperative morbidity in patients with advanced EOC.

Materials and methods: 51 patients with advanced EOC treated over a period of 2 years either by upfront surgery (n=19) or interval cytoreduction approach (n=32) approach were analysed for various intraoperative and postoperative morbidity related parameters.

Results: Patients with interval cytoreduction were noted to have significantly lesser operative times, blood loss and extent of surgery. Their discharge time was also significantly earlier. However they did not differ from the other group vis. a vis. Postoperative complications or mortality.

Conclusions: NACT, although has a positive impact on various intraoperative adverse events, fails to show any impact on immediate postoperative negative outcomes.
COMPARISON OF OVARIAN CRESCENT SIGN & RISK OF MALIGNANCY INDEX IN PREDICTION OF OVARIAN MALIGNANCY

Ashita Gulati¹, A. Sharma¹, A. Suneja¹, N.B. Vaid¹, S. Sharma², P. Yadav¹
¹Obstetrics & Gynaecology, ²Pathology, UCMS & GTB Hospital, Delhi, India

Objective: To evaluate the presence of “Ovarian Crescent Sign” (OCS) as a new parameter for discriminating benign from malignant ovarian masses and to compare it with Risk Of Malignancy Index (RMI) in prediction of ovarian malignancy.

Methods: In this cross sectional study, presence of Ovarian Crescent Sign (OCS) was noted and calculation of Risk of Malignancy Index (RMI) was done for 50 cases of adnexal masses scheduled to undergo surgery taking histopathology as gold standard. Tumors with obvious secondaries were excluded.

Results: RMI had sensitivity of 55.6%, negative predictive value of 90.7%, specificity and positive predictive value of 95.1% & 71.4% respectively. OCS was absent in all malignant lesions, giving a sensitivity and negative predictive value of 100%. Specificity and positive predictive value of negative OCS was 80.4% & 52.9% respectively. All masses with presence of crescent sign were benign. Combining OCS with RMI was not found to be beneficial over OCS individually.

Conclusion: Ovarian Crescent Sign besides being cheaper and easy to perform appears to be a better test than RMI to differentiate between benign and early stage malignant ovarian tumors. Triaging of patients by this simple test (OCS) on one hand can reduce the load on oncology centres by detecting and treating benign tumors at peripheral centres and on the other hand it improves the prognosis in malignancy patients by providing optimal surgery to well selected cases.
EFFECTS OF SILTUXIMAB ON THE IL-6 INDUCED SIGNALING PATHWAY IN OVARIAN CANCER

Yuqi Guo¹, Z. Zhang², Z. Duan³, G. Huang¹, X. Guo¹

¹Obstetrics and Gynecology, ²Immunology, The Third Affiliated Hospital of Zhengzhou University, Zhengzhou, China, ³Sarcoma Biology Laboratory, Center for Sarcoma and Connective Tissue Oncology, Massachusetts General Hospital, Boston, American Samoa

Purpose: To explore therapeutic strategies for interrupting the IL-6 signaling pathway, we assessed IL-6 expression in ovarian cancer tissues, and the monoclonal antibody siltuximab's ability to inhibit IL-6 induced Stat3 phosphorylation, Stat3 nuclear translocation, and Stat3 downstream antiapoptotic genes, thereby enhancing paclitaxel sensitivity in multidrug resistant ovarian cancer cell lines.

Design: Expressions of IL-6 in ovarian cancer patient specimens were assessed by immunohistochemistry. Effect of siltuximab on IL-6 induced activation of Stat3 in ovarian cancer cell line was determined by Western blot and real-time analysis of Stat3 nucleocytoplasmic translocation. Influence of combination of siltuximab and paclitaxel on tumor growth was evaluated in a xenograft mouse mode in vivo.

Results: The metastatic and drug-resistant recurrent tumors have significantly greater IL-6 expression. Siltuximab suppressed IL-6 induced Stat3 phosphorylation and Stat3 nuclear translocation. Treatment with siltuximab decreased the levels of Stat3 downstream proteins such as MCL-1, Bcl-XL, and survivin. Examination of the effects of siltuximab on the IL-6 induced gene expression revealed that a large number of genes have altered expression levels in IL-6 treated SKOV-3 and Caov-3 cell lines. Treatment with siltuximab reduced expression of multiple IL-6-induced genes. Furthermore, siltuximab increased the cytotoxic effects of paclitaxel in a paclitaxel resistant ovarian cancer cell line in vitro, and combination therapy with siltuximab did not have a significant effect on paclitaxel resistant tumor growth in vivo.

Conclusions: These results demonstrated that siltuximab effectively block the IL-6 signaling pathways and IL-6-induced gene expression. Blockage of IL-6 signaling may provide benefits for the treatment of ovarian cancer.
Abstracts presented at the International Gynecologic Cancer Society Regional Meeting on Gynecologic Cancers

119

OVARIAN CANCER SYMPTOMS AND DIAGNOSIS: PATIENT REPORTED SYMPTOMS AND SYMPTOMS REPORTED IN PATIENTS’ MEDICAL RECORDS

Paridha Gupta1, T. Weathers1, F.B. Stehman2, J.M. Schilder2, M.W. Method3, L.M. Hess1

1Department of Public Health, 2Department of Obstetrics and Gynecology, Indiana University School of Medicine, Indianapolis, 3Michiana Hematology Oncology, Mishawaka, IN, USA

Background: Studies have shown that about 90% of women diagnosed with ovarian cancer (OC) experience symptoms prior to their diagnosis. These studies have reported differences in the symptom profiles of patients diagnosed with benign disease compared to those who were diagnosed with OC. However, none have attempted to compare these self-reported (SR) symptoms with those documented in the patients’ medical records (MR).

Aim: To describe and compare the self-reported symptoms and those documented by the health care providers in the medical records of women referred for surgery for suspected OC.

Methods: This study enrolled women who were referred to gynecologic oncology for suspected ovarian cancer. Women were interviewed about their health care experience and symptoms. SR symptoms were compared to those reported by their health care providers in their MR.

Results: 107 women were consented to this study. This preliminary analysis includes 45 women who had both interview and medical record data available. Statistically significant differences (p-value < 0.05) were noted in 20 different SR and MR symptoms (Table 1).

Table 1: Selected statistically significant differences in self-report and medical record symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Self-report</th>
<th>Medical record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain</td>
<td>31.1%</td>
<td>82.2%</td>
</tr>
<tr>
<td>Abdominal bloating</td>
<td>20.0%</td>
<td>62.2%</td>
</tr>
<tr>
<td>Pelvic pain</td>
<td>8.9%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Nausea and/or Vomiting</td>
<td>6.7%</td>
<td>31.1%</td>
</tr>
<tr>
<td>Able to feel abdominal mass</td>
<td>4.4%</td>
<td>55.6%</td>
</tr>
<tr>
<td>Unable to eat normally</td>
<td>0%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Night sweats/Hot Flashes</td>
<td>0%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Urinary urgency</td>
<td>0%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Sleep disturbances</td>
<td>0%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

[Table 1]

Conclusion: A symptom index for physicians may be useful to identify women who should be evaluated for a suspected ovarian cancer.
SARCOMA-LIKE NODULES IN OVARIAN MUCINOUS CYSTADENOCARCINOMA: A CASE REPORT

Reyna Marie Herrera

Obstetrics and Gynecology, Southern Philippines Medical Center, Davao City, Philippines

Mural nodules of ovarian mucinous tumors are rare. This is a rare case of sarcoma-like nodules in mucinous cystadenocarcinoma of the ovary. The patient was an 18-years-old, single, nulligravid from Malita, Davao del Sur presented with gradually enlarging abdomen associated with back and pelvic pain for 3 months. An abdominopelvic mass, slightly movable, nontender with no solid areas approximately 24 x 26 cm was noted on the abdominal examination. On transvaginal sonography, a large pelvo-abdominal cystic mass measuring 46.1 x 21.3 bilocular with solid component measuring 9 x 7.2 cm at its central core and has thick capsule was demonstrated. CA-125 was slightly elevated to 47.97 U/mL. She underwent exploratory laparotomy for a right ovarian tumor. After ovarian malignancy had been diagnosed from frozen section, total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed. Ovarian staging, including pelvic washings was done. Systemic adjuvant chemotherapy was proposed; nonetheless, the patient refused this treatment. Therefore, close follow-up was advised.
A SUCCESSFUL THERAPEUTIC REGIMEN FOR RECURRENT EPITHELIAL OVARIAN CARCINOMA: CHEMOTHERAPY COMBINED WITH SURGERY AND RADIOTherAPY

Xiao Huang, S.M. Cai, J. Tang, R.Y. Zang
Shanghai Cancer Hospital, Fudan University, Shanghai, China

Objectives: This intent-to-treat study was to explore a new kind of treatment, chemotherapy based salvage therapy with a combination of surgery and radiotherapy in patients with recurrent epithelial ovarian carcinoma. We also discussed prognostic factors related to recurrent epithelial ovarian carcinoma.

Methods: Twenty-nine patients with recurrent epithelial ovarian carcinoma were enrolled in this study. They underwent chemotherapy combined with surgery and radiotherapy. Platinum-sensitive patients were retreated with paclitaxel + cisplatin (TP) or carboplatin + cyclophosphamide (CP) regimen. Platinum-resistant patients were given paclitaxel + mitomycin (TM) or etoposide+ mitomycin (VM). Local radiotherapy was given for residual tumor following second cytoreductive surgery.

Results: The four-year survival rate after recurrence, four-year progress-free survival (PFS) rate after recurrence and four-year overall survival rate were 54.60%, 48.28% and 58.62 %, respectively. Multivariate analysis indicated the size of residual lesion after secondary cytoreductive surgery (P< 0.05) and the maximal diameter of tumor before radiotherapy (P< 0.01) were two independent prognostic factors to both the survival after recurrence and overall survival. The diameter of tumor before radiotherapy (P< 0.01) was an independent prognostic factor to PFS after recurrence. The major side effects include myelosuppression, diarrhea and impaired liver function, which were all endurable.

Conclusions: Effective chemotherapy combined with optimal secondary cytoreductive surgery and postoperative radiotherapy on residual tumor may improve the survival of recurrent epithelial ovarian carcinoma.
AN EXPERIENCE WITH SECONDARY SURGICAL CYTOREDUCTION IN SELECT GROUP OF HEAVILY PRETREATED RECURRENT EPITHELIAL OVARIAN CANCER

Rama Joshi¹, R.C. Joshi²

¹Gynecology Oncology, Artemis Cancer Centre, Artemis Health Institut, GurGaon, ²Oncology, Northern Railway Central Hospital, New Delhi, India

Eight patients of recurrent epithelial ovarian cancer with Intra-abdominal localized disease were selected for secondary surgical cytoreduction between 2007 and 2009. All patients underwent primary or interval cytoreduction and adjuvant/neoadjuvant platinum based chemotherapy.

All had disease free interval of more than 6 months and experienced 2 or more relapses treated with chemotherapy prior to secondary cytoreductive surgery. Age ranged from 34 to 58 years. Site of recurrence was pelvis in 5, para-aortic lymphnodes in 1, ileocaecal in 1 & small bowel with peritoneal in 1.

Surgical procedures included excision of pelvic mass with low anterior resection and rectosigmoid anastomosis in 4 patients, lymphadenectomy in 4, Resection and anastomosis of ileojejunal segment in 1 & Right hemicolecetomy in 1 patient.

Residual status of no gross disease achieved in 6, optimal status of < 1 cm in 2 patients. Following secondary surgical cytoreduction they received platinum based chemotherapy. 5 patients were NED at 32 to 48 months and 1 patient at 4 months.

Disease recurred in supra clavicular nodes in 1 and Peritoneum in the other at 4 & 6 months respectively. Intra operative complication of bladder injury occurred in 2 and post operative complication of recto sigmoid anastomotic leak occurred in 1 & were managed successfully.

4 of 8 patients are still surviving at 32 to 48 months follow up without any evidence of disease thus a meaningful survival can be achieved with secondary surgical cytoreduction in recurrent epithelial ovarian cancer with localized intra abdominal disease.
ACUTE ABDOMEN CAUSED BY TORSION OF OVARIAN DYSGERMINOMA - CASE REPORT

Nebojsa Jovcic1, J. Trifunovic2, L. Avramovic1, S. Zujkovic1, I. Pljesa1

1Hospital for Gynecology and Obstetrics, Clinical Hospital Center Zemun, 2Institute of Anatomy, School of Medicine, University of Belgrade, Belgrade, Serbia

Background: Dysgerminoma is the most common malignant germ cell tumor accounting for 30 to 40% of all ovarian germ cell tumors. The tumor accounts 1 to 3% of all ovarian cancers, but it represents 5 to 10% of ovarian cancers in patients under 20 years. Due to excellent chemosensitivity, the aim of management in all patients is curative with preservation of fertility by performance of just unilateral salpingo-oophorectomy. Very rarely torsion of ovarian dysgerminoma causes acute abdomen.

Case: Authors have presented the case of 16-year-old school girl who was referred to our gynecological department with symptoms of acute abdomen. Transabdominal ultrasonography showed the presence of tumor in the lower abdomen. Emergency surgery was performed and torquated tumor of the left ovary was identified. Left salpingo-oophorectomy was performed. Histopathological diagnosis showed ovarian dysgerminoma. Six years after the operation, there are no signs of relapse.

Conclusion: Dysgerminoma is the most frequent germ cell ovarian tumor. Fertility sparing surgical procedures and careful follow-up should be a treatment option for young girls with early stages of this disease.
EXPRESSION OF KI-67 PROTEIN IN OVARIAN CANCER PATIENTS I-II STAGES

Victoria Karapetyan¹, E. Stepanova², A. Baryshnikov², S. Nikoghosyan², V. Kuznetsov²

¹Gynecology, ²N.N. Blokhin Cancer Research Centre, Moscow, Russia

One of the modern ways of predicting the ovarian cancer treatment results is investigate the molecular biological markers in the tumor tissue.

Important molecular marker that characterize the biological properties of tumors, is Ki-67 protein.

**Material and methods:** 48 cases of ovarian cancer 1-2 stages were retrospectively reviewed, which included medical records and evaluated the expression of Ki-67 protein. 26 patients had serous cystadenocarcinoma, 16 endometroid adenocarcinoma, and 6 mucinous adenocarcinoma.

**Results:** The expression Ki-67 protein was significantly higher in patients with serous cystadenocarcinoma than endometroid adenocarcinoma and mucinous adenocarcinoma. In patient with concomitant uterine myoma expression of Ki-67 protein higher. (49,7±7,0%, vs 27,3±5,1%, p=0,01).

In patients with serous cystadenocarcinoma expression Ki-67 protein was higher in low-grade tumors (p = 0.049) and patients elder 60 years (r = 0,44; p = 0,026).

Analysis of long-term results of patients showed that the values of Ki-67 protein by 50% or more, only a third of patients experienced a 10-year observation period, whereas the values of Ki-67 less than 50% of 10-year follow-up was 85, 7% (p> 0,05).

**Conclusion:** According to our study the expression of Ki-67 was detected in all patients with ovarian cancer stage I-II, and high expression of Ki-67 is associated with poor prognosis especially in serous ovarian cystadenocarcinoma and can be regarded as an adverse prognostic factor early stages of ovarian cancer.
NEOADJUVANT CARBOPLATIN/PACLITAXEL BASED CHEMOTHERAPY IN ADVANCED OVARIAN CARCINOMA: A REPORT OF A CASE

Violeta Klisarovska, S.V. Petreska, O. Arsovski, E. Lazareva, L.M. Kostovska, M. Pesevska, V. Krstevska

Department of Gynecologic Oncology, University Clinic of Radiotherapy and Oncology, Skopje, FYRMacedonia

Aims: Ovarian carcinoma is the leading cause of death from gynecological malignancies in developed countries and fifth most common cause of cancer mortality in female population. Due to non specific symptoms, approximately 70% are initially diagnosed in FIGO stage III with ascites.

Methods: Clinical exam, abdominal ultrasound, CT scans, MRI, laboratory, including tumor marker Ca125 are minimal requirements for initial diagnosis. The aim of surgery is to achieve optimal debulking—total abdominal hysterectomy with bilateral salpingoophorectomy, removal of omentum and all respectable masses within peritoneal cavity, at the same time providing tissue for histopathology analysis. Further treatment depends on definitive staging, usually chemotherapy consisted of carboplatin/paclitaxel.

Results: A 28 years old patient, referred to our Clinic in decreased performance status, for chemotherapy treatment with advanced ovarian carcinoma. Operation was finished as explorative laparotomy with multiple biopsies from otherwise technically inoperable tumour. HP diagnosis revealed ovarian cystadenocarcinoma. Initially she had extremely high value of Ca125 > 1000 U/ml. Pre-treatment CT scan revealed bulky abdominal and pelvic tumour mass with enlarged lymph nodes. Her performance status improved shortly after the start of chemotherapy. Initial tumor marker was reassessed after two cycles of chemotherapy measuring less than half of initial value Ca125 = 473 U/ml. The level of Ca125 entered normal range values after the fourth cycle of chemotherapy. After administration of planned six cycles she was in good performance status, without any symptom or complaints. Post-treatment CT scan revealed complete response, without radiological signs of the disease. Subsequent surgery was carried out and she had confirmed complete response according the histopathology analysis. First follow up, three months after the treatment consisted of clinical exam, abdominal ultrasound and measurement of Ca125 showed no evidence of disease.

Conclusion: Neoadjuvant combination chemotherapy with carboplatin/paclitaxel and interval debulking improves survival and delays recurrence.
RATIONALE OF SECONDARY CYTOREDUCTIVE SURGERY (SCRS) IN RECURRENT EPITHELIAL OVARIAN TUMOUR

Shobha Krishnappa
Gyneoncology, Kidwai Memorial Institute of Oncology, Bangalore, India

Introduction: Management of recurrent EOC is a challenge to the treating clinician. The survival depends on the disease free interval, residual disease status, response to CT and finally to tumour biology. However it often (always) remains dismal in patients with shorter disease free interval.

Objectives: To study the indication, feasibility of surgery, treatment outcome in patients with localized recurrent EOC.

Patients and methods: Of the 364 patients, 251 were compliant to optimal treatment for EOC between JAN 2005 to DEC 2009. Selected 21 patients who underwent SCRS for recurrent EOC were retrospectively reviewed.

Results: 12 patients with only pelvic recurrence, 6 patients with abdominopelvic recurrence and 3 with groin node recurrence had SCRS. 17 patients had primary SCRS and 4 had NACT followed by SCRS. Optimal SCRS was achieved in 18(86%) patients. 6(28%) had bowel surgery, one had spleenectomy and subdiaphragmatic stripping. 11(52%) of the patients had serous type and 7(33%) poorly differentiated adenocarcinoma. 12(57%) had high grade tumour. 14(66%) completed optimal adjuvant therapy. The median follow up period was 37 months, 15 patients remained with no evidence of disease.

Conclusion: In the present study, selected subgroup of patients with recurrent ovarian cancer who underwent SCRS, majority of them had technically feasible and optimal surgery and those followed by adjuvant CT had prolonged progression free survival and overall survival benefit with QOL issues.
PATTERN OF CARE BY PRIMARY SURGERY VS NEOADJUANT CHEMOTHERAPY FOLLOWED BY INTERVAL DEBULKING SURGERY IN ADVANCED EPITHELIAL OVARIAN CANCER

Shobha Krishnappa
Gynaecology, Kidwai Memorial Institute of Oncology, Bangalore, India

Introduction: Primary cytoreductive surgery is the gold standard in the management of EOC. However considering the poor performance status, extensive disease status and availability of infrastructure in the low resource setting, NACT followed by interval debulking surgery was also considered to be prudent in selected sub group of patients.

Objective: To determine the indications, optimization, morbidity, disease free interval, compliance to treatment protocol and outcome between primary and interval debulking surgery.

Patients and methods: Between JAN 2005 and DEC 2009, 364 patients with epithelial ovarian cancer, 276(76%) patients were advanced EOC. 144 (52%) patients who underwent primary cytoreductive surgery and 132 (48%) patients interval debulking surgery were analysed retrospectively. Patients with poor PS, poor nutrition, massive ascites, fixed abdominopelvic mass and distant metastasis were had NACT followed by IDS.

Results: The median age was 48.5 years. Median duration of surgery, blood loss, blood transfusion, optimization and DFI in both showed similar results. Intraop complication and post op morbidity was slightly more in group A (PS) compared to group B (NACT). Compliance to adjuvant therapy is better in group B (84%) compared to group A (61%). Although the DFI remained same in both groups, optimality in group B had statistically significant result on disease free interval (p value=0.0005). The median follow up was 13 months although QOL issues were better with NACT group.

Conclusion: In the present study, optimization, grade of tumour, DFI, recurrence remained same in both groups. However intra op complications and post op morbidity is less in NACT group with better QOL issues. Hence NACT followed by IDS can be indicated in selective patients.
MASSIVE ASCITES- THINK BEYOND TUBERCULOSIS. A PATIENT OF NON-INVASIVE SEROUS BORDERLINE TUMOR - TYPICAL AND MICROPAPILLARY TYPE

Vinita Jaggi Kumar¹, D. Jain², A. Bahl³, S. Nanda³, J. Jain³, R.K. Grover³
¹Gynaecological Oncology, ²Oncology Pathology, ³Clinical Oncology, Delhi State Cancer Institute, Delhi, India

Background: Serous borderline tumor (SBT) of low malignant potential (LMP) is heterogeneous group, neither wholly benign nor frankly malignant, usually involves premenopausal age, has good prognosis, may recur after 20 years. Decades later, transformation to low grade serous carcinoma can occur in 7%, mandating prolonged follow up. Ten and 20 years survival is 95% and 80% respectively in stage 1. Micropapillary type and invasive implants warrant treatment like carcinoma and need adjuvant chemotherapy.

Method: Presented here is 25 years nullipara married for 4 years, had cystectomy 1 year back, and reported with massive ascites and failure of anti-tubercular treatment of 3 months. Diagnostic tap revealed cells suggestive of metastatic adenocarcinoma. Bilateral complex adnexal masses with ascites were seen on CT. Upper gastrointestinal endoscopy was normal. CA125 was 191 U/ml. Endometrial curettage was secretory endometrium. Thorough staging laparotomy was done, with preservation of uterus.

Results: Grossly both ovaries were multicystic with solid papillary fronds without breach of capsule. Omentum, appendix, peritoneal biopsies, pelvic and paraaortic lymph nodes were devoid of metastasis or implants. Diagnosis of typical non-invasive SBT in right and more aggressive micropapillary SBT in left ovary stage 1C was made. Post operative recovery was uneventful but after first cycle of chemotherapy she developed parietal wall abscess. Wound was debrided and left to heal by secondary intention. Currently she finished third cycle chemotherapy. CA 125 is 4.32 U/ml.

Conclusion: In reproductive age with infertility and adnexal masses despite malignant cells in ascites, keep SBT in mind, and offer conservative surgery.
SIX YEAR PROFILE OF ADVANCED EPITHELIAL OVARIAN CANCER FROM A TERTIARY CARE CENTRE AT KERALA


Surgical Oncology, Amrita Institute of Medical Sciences, Kochi, India

Introduction: This study retrospectively evaluated the advanced EOC (epithelial ovarian cancer) operated in a single institution from 2004-2009

Aims:

1. To evaluate outcome of advanced ovarian cancers treated with NACT followed by surgery versus primary surgery.

2. To analyze how the presence of a dedicated gynecologic oncology unit influences outcome over time.

Results: 165 patients with advanced EOC (stage IIIC-IV) treated from 2004 to 2009 were analyzed. 75 (46%) underwent primary surgery and 90 (54%) received NACT. Optimal cytoreduction of 39% was obtained in Primary surgery group whereas in the case of NACT it was 61%. The mean follow-up was 24 months (6-69 months). The progression free survival (PFS) and Overall Survival (OS) in patients undergoing primary surgery were 29 and 39 months respectively, and 27 and 30 months in patients with NACT. Patients with suboptimal debulking had significantly worse OS (12 vs 40 months) compared to those with optimal debulking. Optimal cytoreduction (< 1cm residual tumor) has improved from 50% in 2004 to 90% in 2009. In Primary surgery group, optimal cytoreduction has improved from 43% to 83%, whereas in NACT it has improved from 60% to 100%. Primary surgery rate increased from 58% in 2004 to 70% in 2009.

Conclusions: In advanced EOC, NACT followed by surgery has comparable survival to patients undergoing primary surgery. Increase in the volume of cases and presence of a dedicated gynecologic oncology unit has resulted in a steady improvement in the optimal cytoreduction rates and the number of Primary cytoreductive surgeries undertaken.
RECURRENT ANALYSIS OF GRANULOSA CELL TUMORS OF THE OVARY: A MULTICENTER RETROSPECTIVE STUDY

In Ho Lee¹, C.H. Choi², D.G. Hong³, J.Y. Song⁴, Y.J. Kim⁵, K.T. Kim⁵, K.W. Lee⁴, I.S. Park³, D.S. Bae², T.J. Kim¹

¹Cheil General Hospital and Women's Healthcare Center, Kwandong University College of Medicine, ²Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, ³Graduate School of Medicine, Kyungpook National University, Daegu, ⁴Korea University Anam Hospital, College of Medicine, Korea University, ⁵Hanyang University Seoul Hospital, College of Medicine, Hanyang University, Seoul, Republic of Korea

Objectives: Evaluate the clinicopathologic characteristics and prognostic factors of ovarian granulosa cell tumors.

Methods: Medical records of 113 patients presenting between January 1995 and December 2007 were retrospectively reviewed.

Results: One-hundred two patients had adult type disease, with a mean age of 46.2 years (18-83) and a mean follow-up period of 54.7 months (1-155). The distribution of FIGO stages was 86 patients at stage I (84.3%), 11 at stage II (10.8%), and five at stage III (4.9%). During follow-up, ten patients recurred at a mean time of 48 months (range 4-109 months). Among them, three patients died after a mean of 57 months (range 25-103 months). In recurrence analysis, advanced stage (p=0.032) and presence of residual disease (p=0.012) were statistically significant, and age < 40 years, premenopause and positive washing cytology were marginally significant (p< 0.1). In multivariate analysis, stage was the only factor associated with recurrence. Among 36 patients with fertility-sparing operations, eight patients had nine pregnancies and delivered seven babies. Eleven patients had juvenile type tumors; the mean age was 20.0 years (range 8-45 years) and the mean follow-up period was 69.8 months (range 20-156 months). The distribution of FIGO stage was nine patients at stage I (81.8%) and two at stage III (18.2%). There were no recurrences or deaths reported. Four patients had seven pregnancies and delivered six babies.

Conclusions: Stage is the only factor associated with disease-free survival, and fertility-sparing surgery may be a treatment option for women with early-stage disease who want to retain fertility.
DIAGNOSTIC VALUE OF CA125 AS A PREDICTOR OF RECURRENCE IN ADVANCED OVARIAN CANCER

M.J. Song, C.W. Lee, J.H. Yoon, Joon Mo Lee

Obstetrics and Gynecology, Seoul St. Mary’s Hospital, the Catholic University of Korea, Seoul, Republic of Korea

Objective: The aim of this study was to establish the guideline for detecting early recurrence of advanced epithelial ovarian cancer by use of the level of CA125.

Methods: From January 1995 through May 2008, the medical records of all patients with ovarian cancer (571 patients) at our institute were reviewed and analyzed. 85 of them who met some criteria with advanced diseases were enrolled in this study. We examined diagnostic values of CA125 as a bio-marker in recurrent ovarian cancer and incremental changes of 25 increments from 1 IU/ml to 25 IU/ml and compared the CA125 value with other prognostic factors. Increases in the CA125 level from the nadir level were expressed as CA125-increments.

Results: Among the 25 increments, a level of CA125-8 (8 IU/ml) was selected as the predictor being simultaneously the most efficient and time effective. CA125-8 had a sensitivity of 91.5%, a specificity of 84.6%, a positive predictive value of 93.1%, a negative predictive value of 81.5%, an efficiency of 89.4% and a median lead-time of 68.5 days (P < 0.0001). Based on multivariate logistic regression analysis, CA125-8 was also a highly statistically significant predictor of advanced ovarian cancer (P < 0.0001).

Conclusion: Analysis of CA125 increments provides the potential for early detection of recurrence in advanced ovarian cancer. We suggest the increment CA125-8 (8 IU/ml) as an available predictor of recurrence in advanced ovarian cancer.
THE STUDY OF EXTRACT MARSDENIA IN COMBINATION WITH HYPERTHERMIA ON PROLIFERATION THE HUMAN OVARIAN CANCER CELL LINE SKOV3

**Kemin Li**, R. Yin

**Gynecology, West China Second University Hospital of Sichuan University, ChengDu, China**

**Objective:** To investigate the effect of inhibition of cell growth of Extract Marsdenia in combination with hyperthermia on proliferation of the human ovarian cancer cell line SKOV3 in vitro.

**Methods:** SKOV3 cell line were treated by Extract Marsdenia (10, 30, 60, 90, 120, 150 mg/ml) or hyperthermia (42°C) alone, or by the combination of them. The inhibition ratio of cell proliferation was detected by MTT method, cell cycle was assessed by flow cytometry, and the semi-quantity of CEACAM 6 mRNA were detected by RT-PCR.

**Results:** Proliferation of SKOV3 cultured with 90, 120, 150 mg/ml of Extract Marsdenia was significantly lower than the control group (P< 0.01), the flow cytometry and RT-PCR is performing now, we may predict that early apoptosis ratio of SKOV3 cultured with 90, 120, 150 mg/ml of Extract Marsdenia is significantly higher than the control group ( P< 0.01), and expression of CEACAM 6 mRNA in the control group is higher than experiment group.

**Conclusion:** Extract Marsdenia or Extract Marsdenia in combination with hyperthermia could significantly suppress the proliferation of the human ovarian cancer cell line SKOV3 in vitro. The action mechanisms may be associated with the suppression of expression of CEACAM6. This may provide a new treatment for ovarian cancer.
THE STUDY OF CHINESE MEDICINE (AIDI) IN COMBINATION WITH HYPERTERMIA ON PROLIFERATION OF THE HUMAN OVARIAN CANCER CELL LINE SKOV3

Kemin Li, R. Yin

Gynecology, West China Second University Hospital of Sichuan University, ChengDu, China

Objective: To investigate the effect of inhibition of cell growth of Chinese Medicine (aidi) in combination with hyperthermia on proliferation of the human ovarian cancer cell line SKOV3 in vitro.

Methods: SKOV3 cell line were treated by Chinese Medicine (aidi) (25, 50, 100, 150 mg/ml) or hyperthermia (42°C) alone, or by the combination of them. The inhibition ratio of cell proliferation was detected by MTT method, cell cycle was assessed by flow cytometry, and the semi-quantity of CEACAM 6 mRNA were detected by RT-PCR.

Results: Proliferation of SKOV3 cultured with 25, 50, 100, 150 mg/ml of Chinese Medicine (aidi) was significantly lower than the control group (P< 0.01), the flow cytometry and RT-PCR is performing now, we may predict that early apoptosis ratio of SKOV3 cultured with 25, 50, 100, 150 mg/ml of Chinese Medicine (aidi) is significantly higher than the control group ( P< 0.01), and expression of CEACAM 6 mRNA in the control group is higher than experiment group.

Conclusion: Chinese Medicine (aidi) or Chinese Medicine (aidi) in combination with hyperthermia could significantly suppress the proliferation of the human ovarian cancer cell line SKOV3 in vitro. The action mechanisms may be associated with the suppression of expression of CEACAM6. This may provide a new treatment for ovarian cancer.
ANALYSIS OF 3057 CASES OF OVARIAN TUMOR IN NORTHWEST OF CHINA

Xiangdong Ma, Y. Huang, B. Chen

Department of Obstetrics and Gynecology, Xijing Hospital, Fourth Military Medical University, Xi’an, China

**Aim:** To investigate the character of ovarian tumor and etiology regulation for 10 years in northwest of China.

**Methods:** To statistic 3057 cases of ovarian tumor in Xijing Hospital from 1999-2009.

**Results:** The incident rate of surface epithelial-stromal tumor is the highest (47.89%), and the second one is sex germ cell tumor (43.17%), and the third one is sex cord-stromal tumor (8.79%) respectively. In surface epithelial-stromal tumors, the highest incident rate is between 41-53 years old, in germ cell tumor the highest incident rate is among age 31, in sex cord-stromal tumor is about 60 years old, and secondary tumor is between 31-40 age, miscellaneous tumor is between 45-50 age, in lymphoid and haematopoetic tumor is between 51-60 age.

**Conclusion:** The incident rates of various ovarian tumor are increasing which should be pay much more attention. Each type of ovarian tumor shows close relationship with age of patients and it is valuable in their diagnosis.
PRIMARY CARCINOID TUMOR ARISING IN A MATURE CYSTIC TERATOMA OF THE OVARY: A CASE REPORT

Simona Mazzola¹, C. Manini², F. Capoti¹, M.C. Cuccorese¹, R. Bonetto¹

¹Obstetrics and Gynecology, Maggiore Hospital - ASL TO5, Chieri, ²Anatomic Pathology, Santa Croce Hospital - ASL TO5, Moncalieri, Italy

Background: Malignant transformation of mature cystic teratoma is an extremely rare complication occurring in approximately 1-3% of patients who have mature cystic teratoma. Clinical presentation and intervention: A 52-year-old woman presented with abdominal swelling and recurrent metrorrhagia. Physical examination and ultrasound scans revealed an intraligamentary leiomyoma with a maximum diameter of 18 cm and a 6-7 cm diameter right ovarian mass. The patient underwent a total abdominal hysterectomy with bilateral salpingo-oophorectomy and peritoneal washing, she was scheduled for CT surveillance of the abdomen and pelvis at 3-monthly intervals.

Results: Macroscopically the encapsulated complex solid and multiloculated cystic tumor showed walls with calcifications and was filled with yellow-tan gelatinous material. Microscopically the tumor showed coexistent mature cystic teratoma and carcinoid tumor. Immunohistochimically the carcinoid tumor component was positive for CD56, chromogranin and synaptophysin.

Conclusion: Our case may adds to a poor existing literature about carcinoid tumors occurring in a mature cystic teratoma of the ovary. According to available data, surgery alone is the gold standard treatment for ovarian carcinoid tumors confined to one ovary and the outcome is excellent.
CASE REPORT: MUCINOUS CYSTADENOMA OF APPENDIX

Elaheh Ouladsahebmadarek, A. Dastranj, K. Pouya, M. Sayyah-Melli

1Obstetrics & Gynecology, 2Pathology, Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, 3Obstetrics & Gynecology, Tabriz University of Medical Sciences, Tabriz, Iran

Introduction: Mucinous cystadenoma of the appendix is a rare important disease which may be misdiagnosed as an ovarian cyst.

Case report: We report a case presented to our hospital with lower abdominal pain. Clinical exam and ultrasonography suggested an ovarian cyst or hydrosalpinx. The diagnosis was made at the time of surgery and mucocele removed.

Conclusion: In women with cylindrical cystic mass in right iliac fossa, an appendiceal mucocele should be considered in the differential diagnosis.
ROLE OF INTRAOPERATIVE CYTOLOGY IN DIAGNOSIS OF HISTOLOGIC SUBTYPES OF OVARIAN MASSES

Elaheh Ouladsahebmadarek¹, A. Dastranj¹, M. Sayyah-Melli², M. Jafari Shobeiri³, P. Mostafa Garabaghi⁴

¹Women's Reproductive Health Research Center, ²Obstetrics & Gynecology, Women's Reproductive Health Research Center, ³Obstetrics & Gynecology, Women's Reproductive Health Research Center, ⁴Obstetrics & Gynecology, Tabriz University of Medical Sciences, Tabriz, Iran

Introduction: Staging of ovarian cancer is performed during surgery. Frozen section has been used for intra operative diagnosis but has some limitations. The aim of this study was to compare the results of scrape cytology with frozen section and permanent pathology in diagnosis of ovarian tumors.

Material and methods: One hundred seventeen patients with ovarian masses who were candidate for surgery at Alzahra, university dependent hospital from 2008 to 2010 were enrolled into the study. Intra operative samples for scrape and frozen section were taken. Scrapes slides were fixed in 96% alcohol for 1 minute and then stained by rapid H&E.

Results: Histologic subtypes of benign ovarian masses were detected in 77.04% and malignant tumors in 55.35% correctly by scrape cytology. Correct prediction of histologic subtypes by frozen section for malignant and benign tumors of ovary were 53.57% and 75.40% respectively. The best prediction values of scrape cytology were for granulosa cell tumor and dysgerminoma (100%) and the least value for high grade malignant tumors and metastatic tumors (30%).

Conclusion: Scrape cytology with high positive predictive value is comparable with frozen section and is an accessible, fast and easy method for intra operative diagnosis.
RATIONALE OF SPLENECTOMY IN ADVANCED OVARIAN CANCER SURGERY

Gynecologic Oncology, Kidwai Memorial Institute of Oncology, Bangalore, India

Objective: To study the indication for splenectomy, associated with other abdominal procedures, morbidity and mortality in relation to treatment outcome.

Material and methods: Between January 2009 & December 2010. 225 patients underwent cytoreductive surgery for advanced ovarian cancer of which 26(11.55%) patients had undergone splenectomy. All these patients were evaluated according to FIGO guidelines and the records were reviewed retrospectively.

Results: The age ranged between 22 & 66(mean-48 years). Of the 26 patients who underwent splenectomy, 4 had parenchymal involvement,9 hilar and 13 capsular involvement. Twelve patients(46%) had bowel surgeries, eight(31%) had sub diaphragmatic stripping and peritonectomy. 12/26(46%) patients had respiratory infection and sepsis(OSPI-overwhelming post splenectomy infection),4 /26(15%) had sepsis along with anastomotic leak,3 /26 (11%) had burst abdomen. 11(42%) had no complications either intraop or postop. The mean intraop blood loss was 700 ml . The hospital stay ranged from 20-35 days(mean-25.42). 2/26 (7.6%) patients died post operatively due to sepsis.3/26(11.5%) defaulted for chemotherapy.

Conclusion: Although splenectomy per se is rarely indicated in gynecologic cancer surgery, it becomes mandatory in optimal cytoreduction in advanced ovarian cancer debulking, when it is involved. However in the present study, very few(11.5%) patients required splenectomy, and postop period seems to be morbid when it is combined with other procedures.
COMPARISON OF VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) AND CA-125 SERUM LEVELS, BETWEEN PATIENTS WITH OVARIAN CANCER AND BENIGN CYSTS

Minoo Robati¹, M. Momtahan¹, Z. Sarraf¹, A. Ghaderi²

¹Obstetrics and Gynecology, ²Immunology, Shiraz University of Medical Sciences, Shiraz, Iran

Background: Although CA 125 and transvaginal ultrasonography used for early detection of epithelial ovarian cancer, the rate of false positivity for these screening tests are high, particularly in premenopausal women. The present study aimed to assess the value of preoperative serum level of CA 125 and vascular endothelial growth factor (VEGF) in early detection of epithelial ovarian cancers.

Materials and methods: In this study, preoperative and postoperative serum level of both CA 125 and VEGF of 30 patients with epithelial ovarian cancers compared with that 30 patients with benign ovarian cysts. Patients who missed follow-up or developed infection requiring therapy were excluded from the study.

Results: Preoperative both serum levels of CA 125 (P< 0.001) and VEGF (P< 0.001) were higher significantly in patients with epithelial ovarian cancers compared with control arm. Postoperatively, the both serum levels of CA 125 (P< 0.001) and VEGF (P< 0.001) in study arm were decreased significantly. However, despite high sensitivity of serum VEGF level, the specificity was low.

Conclusion: These data indicate that both CA 125 and VEGF might be useful as diagnostic clinical markers for the early detection of epithelia ovarian cancers and may differentiate this neoplasm from benign ovarian cysts.
SURVIVAL ANALYSIS OF YOUNG PATIENTS WITH ADVANCED STAGE OVARIAN AND PRIMARY PERITONEAL CANCER

Sharon Romano, D. Lerneer, L. Chuang

Mt. Sinai School of Medicine, New York, NY, USA

Objectives: To compare survival outcome and identify differences in treatment between young (< 50 years) and older women (>50 years) with advanced-stage epithelial ovarian cancer.

Methods: A retrospective chart review of consecutive patients with stage III and IV epithelial ovarian cancer (EOC) treated at Mount Sinai Medical Center from 2001 to 2008.

Results: 147 patients with advanced stage ovarian cancer were identified, 28 (19.2%) pts were 50 year old or younger and 119 (80.8%) pts were over 50 years old. The mean follow up was 26 months (range 2-133). The median survival in younger patients was 98 months compared to 41 months for older patients ($P = 0.01$). Younger patients were more likely to undergo more than two surgical cytoreductive procedures ($P = 0.04$). The mean number of chemotherapy cycles administered to patients in the younger group was 17.2 compared to 8.7 cycles for the older group ($P = 0.03$). In the univariate analysis of the 147 patients, residual disease ($P= 0.03$), age under 50 years ($P = 0.01$), number of chemotherapy cycles (< 12 vs. >13, $P = 0.04$) were found to be significant predictors of survival. Multivariate analysis demonstrated that only younger age and residual disease remained as independent prognostic factors for survival.

Conclusion: Younger women with advanced-stage EOC received more cycles of chemotherapy and underwent more surgical procedures. Younger age and residual disease status after primary cytoreductive procedure are independent prognostic factors for survival.
THERAPEUTIC RESULTS OF A RETROSPECTIVE STUDY ABOUT OVARIAN CARCINOMAS

Manizheh Sayyah-Melli¹, M. Kazemi-Shishvan², E. Ouladesahebmadarek¹

¹Women's Reproductive Health Research Center, ²Tabriz University of Medical Sciences, Tabriz, Iran

Introduction: The purpose of this study was to report retrospectively the therapeutic results and prognostic factors of epithelial ovarian carcinomas.

Material and methods: One hundred and thirty-five patients, who had been treated between 2003 and 2007, classified according to the age, stage and chemotherapy cycles. Early and secondary outcomes and overall survival were calculated. The primary end point was the proportion of patients achieving clinical complete remission.

Results: Sixty-eight out of 131 women had benign tumors. Forty-two had FIGO stage Ic- IIIb. The rest were in advanced stage. Weekly carboplatin and paclitaxel as the initial postoperative adjuvant chemotherapy for epithelial ovarian carcinoma were the most regimens. Fourteen patients had cytoreductive surgery after neoadjuvant chemotherapy (NACT). Perioperative morbidity of Interval debulking group was low. At the first evaluation, 11 patients who received NACT achieved complete response after completion of the treatment. Neoadjuvant chemotherapy caused longer survival compared to primary cytoreductive surgery. The 2 and 3 years overall survival rates were 21% and 13%, respectively.

Conclusions: The 5 years overall survival rates for ovarian cancers in early stages compared with late stages were high (90% vs 16%). NACT can improve the rate of optimal cytoreductive surgery for the patients with stage IIIc or IV epithelial ovarian cancer, but this regimen may neither reduce the recurrent rate nor prolong the survival. Incomplete surgery and primary surgery in advanced ovarian cancer were associated with poor outcome. Stage of disease and chemocytoreduction had an importance as a prognostic factor.
PLACEMENT OF RADIOTHERAPY IN LATE STAGE OVARIAN CANCERS

Manoj Sharma¹, R. Arora², A. Sharma³

¹Radiotherapy, ²Department of Obstetrics & Gynaecology, Maulana Azad Medical College, ³Biochemistry, All India Institute of Medical Sciences, New Delhi, India

Background and aims: Dismal results of chemotherapy in stage III ovarian patients have resulted in extended therapeutic regimen that are often dose or finance limiting. Commonest site of recurrence is pelvis in these cases. Radiation appears an effective alternative as evidenced by protocolised Infra-umbilical Teleradiation. The aim of this study is to

- Increase survival in stage III disease
- Postpone early onset recurrence and resultant distressing symptoms.
- Train the handling of operated post chemo-irradiated abdomen in these cases

Material and methods: Postoperative, post chemotherapy Stage III epithelial tumour on CA 125/USG follow up.

- Group 1: Below umbilicus hemi abdomen radiation only
- Group 2: Martinez Technique Radiation (50 Gy to pelvis).

Radiation was started 4-6 weeks after completion of last cycle of chemotherapy irrespective of CA 125 levels. The controlled group left on follow up as usual.

Results: Statistical difference in onset of symptoms due to pattern of recurrence hence the treatment to disease progression time in between study and control groups. Radiation group had slightly higher side effects, compared to non irradiated group. The radiation toxicity profile was definitely better in indoor patients versus out door. Six months follow up had significantly better clinical and biochemical parameter profile since nonirradiated case has started showing markers of recurrence or even disease progression.

Conclusion: Postoperative postchemo stage III ovarian cases definitely need a well monitored whole abdomen radiation to act on commonest site of recurrence-the pelvis, on micromets, implant that have resisted effects of multidrug chemo regimen.
DIAGNOSIS OF DOUBLE PRIMARY CANCERS
Royyuru Suchitra, K. Umadevi, U.D. Bafna
Gynaecological Oncolog, Kidwai Memorial Institute of Oncology, Bangalore, India

Background and aims: The association of ovarian cancers with breast and endometrial cancers is well known. The diagnosis of double primary cancers can be enhanced by awareness of this entity, greater clinical suspicion and thorough follow up.

Methods: A retrospective study involving the analysis of patients, diagnosed as double primaries was carried out at KIDWAI Memorial Institute of Oncology - Bangalore from January 2005 to November 2010.

Results: 21 cases were identified. The most common associations were noted with ovarian cancer. 10 had associated breast cancer, 3 had thyroid, 3 had endometrial, 2 had colonic, and 2 had cervical cancers. One case was of endometrial cancer with carcinoma colon. Among these, three cases of endometrial cancers and one thyroid cancer association with ovary were identified simultaneously. Rest of the tumors was diagnosed at follow up. The range being 3 months to 20yrs

Conclusion: A patient with a gynecological malignancy requires a thorough initial evaluation and a lifelong follow up to detect any possible second malignancy.
AQUAPORIN-1 EXPRESSION IN SEROUS EPITHELIAL OVARIAN CANCERS AND ITS RELATION WITH CLINICOPATHOLOGIC FACTORS

Mustafa Kemal Takal¹, C. Baykal¹, Ö. Özen², A. Ayhan¹

¹Başkent University, Istanbul, ²Başkent University, Ankara, Turkey

Objective: This study was designed and performed with purpose of detecting AQP1 expression level and determining the significance of AQP1 expression level on prognosis with comparing conventional prognostic factors.

Method: The AQP1 expression levels, IMD and AQP1/IMD ratio in 55 cases with primary serous epithelial ovarian cancers were measured by semiquantitative immunohistochemical method.

Results: AQP1 expression was observed in the membrane of interstitial cells of ovarian cancer and in tumor cells in a few cases. It was not observed in the cytoplasm of tumor cells. A statistically significant difference was not found between FIGO stage I-II and FIGO stage III-IV for AQP1 expression (p > 0.05). A positively correlated relationship was not detected between expression of AQP1 and IMD and between expression of AQP1 and ascites volume (p > 0.05). A statistically significant difference was also not found between groups which are compared according to ascites volume, ascites cytology, lymph node metastasis, lymphovascular space invasion (LVSI), preoperative CA 125 levels and performance status for AQP1 expression levels, IMD and AQP1/IMD ratio (p > 0.05). It was detected that a positive correlation between preoperative CA 125 levels and expression of AQP1 (R:0.277, p < 0.05).

Conclusion: The relationship between AQP1 expression levels and FIGO stage, lymph node metastasis or ascites volume was not found to be statistically significant in this study.
BILATERAL OVARIAN PAPILLARY SEROUS CARCINOMA ASSOCIATED WITH CAROTID BODY TUMOR

Nasim Valizadeh

Urmia University of Medical Sciences, Urmia, Iran

Background: Paraganglioma (PG) is a rare tumor which is arised from neural crest cells. Carotid body tumor is the most common type of PG of head and neck. PGs are included familial and sporadic form. Patients with familial forms are presented in young age despite sporadic form. Hereby we report association of carotid body tumor and ovarian cancer in an 68 y/o female.

Case report: A 68 y/o female presented with abdominal distention and pain. Past medical history was positive for a cervical mass which was underwent surgical resection 2 years ago and at that time pathological diagnosis had been paraganglioma with positive immunohistochemistry staining for chromogranin and NSE. She was underwent extensive work up for ascites. Peritoneal fluid cytology was positive for malignancy. CA-125 titer was very high. Abdominal CT scan revealed multicystic mass lesions in both ovaries and results of colonoscopy and Upper gastrointestinal endoscopy were reported normally. She underwent left adenexal mass resection initially which was reported papillary serous cystadenocarcinoma and then total abdominal hysterectomy and right salpingo-oophorectomy and omentectomy. Diagnosis of papillary serous carcinoma of both ovaries was confirmed by pathological examination.

Result: In this 68 y/o old female we saw development of bilateral ovarian papillary serous carcinoma 2 years after excision of carotid body tumor.

Conclusion: Association between carotid body tumor and bilateral papillary serous ovarian carcinoma in this patients shows the possibility of the same involved oncogenes or carcinogens in both paraganglioma and ovarian papillary serous carcinoma.
THE VALUE OF SERUM CA125 FOR THE DEVELOPMENT OF VIRTUAL FOLLOW-UP STRATEGIES FOR PATIENTS WITH EPITHELIAL OVARIAN CANCER

Elizabeth Varughese1, S.K. Chennakes2, A. Obermair1,2

1Gynaecological Oncology, Greenslopes Private Hospital, 2School of Medicine, University of Queensland, Brisbane, QLD, Australia

Background: Subsequent to successful treatment patients with epithelial ovarian cancer (EOC) are followed regularly to exclude recurrence.

Objectives: To evaluate the sensitivity and specificity, positive and negative predictive values of serum CA125 measurements in the follow-up of patients with EOC in regards to its prediction of recurrence.

Methods: A total of 128 patients with stage 1 to 4 EOC were treated at a single tertiary gynaecological cancer centre between 2003 and 2010. Of those, 39 were excluded because treatment was palliative only, or lack of follow-up information. All patients had to have serum CA125

Results: Analysis is based on 89 patients who presented for a total of 388 follow-up episodes. Median follow-up was 12 months. Sensitivity, specificity, NPV and PPV of CA125 to indicate recurrence were 86.67%, 87.46%, 98.04%, and 47.56%, respectively. Six patients developed recurrence not associated with an elevation of CA125. Four of these six patients had EOC with CA125

Conclusions: A negative CA125 reliably (>99%) indicates the absence of recurrence of EOC. These results provide the basis for the elimination of unnecessary investigations and innovative (low-cost, low-tech) follow-up models in EOC.
6 YEAR-CLINICAL EXPERIENCE OF LAPAROSCOPIC SURGICAL STAGING FOR OVARIAN CANCER

JooHee Yoon, J. Lee

Department of Obstetrics and Gynecology, The Catholic University of Korea, Seoul, Republic of Korea

The aims of this retrospective study were to evaluate laparoscopic triage of patients with ovarian cancer towards primary debulking surgery and to analyze outcomes and complications of ovarian cancer.

Between 2004 and 2009, 38 ovarian cancer patients were selected for the laparoscopic surgical staging operation at preoperative assessment and underwent laparoscopic surgery initially. Inclusion criteria for laparoscopic primary surgery was only when complete cytoreduction was considered feasible. The operation procedure included laparoscopic total hysterectomy, bilateral salpingo-oophorectomy, pelvic and paraaortic lymphadenectomy, washing cytology, infracolic omentectomy.

The number of successful operation was 31 cases under laparoscopy and 7 cases were converted to conventional laparotomic surgical staging operation due to tumor location site, severe adhesion, large tumor mass and hemodynamic instability. Patients’ mean age was 46.23 ± 10.51 years and the range of surgical stage was 1A to 3C. The mean operation time was 264 minutes (range 220-390 minutes), the mean postoperative hospital staying was 13.2 ± 7.51 days, and the mean number of harvested lymph nodes was 29.46 ± 8.51. The most common cause of inoperability was location site; for example, hepatic dome and diaphragm area. The intra-/postoperative complications were 3 ileus, 1 gastrointestinal injury and 2 lymphoceles. The trocar site metastasis and ureter injury was not noted in any patients. The overall survival and other related rates were not different in the view of literatural review.

The outcomes of laparoscopic operation done by well trained and experienced surgeon might be similar to that of laparotomic operation in selected ovarian cancer patients.
TREATMENT OF REFRACTORY OVARIAN CARCINOMA WITH SYSTEMIC RADIATION THERAPY

Ludmila Yurkova\textsuperscript{1,2}
\textsuperscript{1}Gynecology, \textsuperscript{2}Radiation Gynecology, Russian Research Centre for Radiation and Surgical Technologies, St. Petersburg, Russia

Background: Ovarian carcinoma is the most prognostically unfavorable gynecologic tumor. In 60-65\% of patients the disease is diagnosed in the III-IV stages, relapses are developed in 80-90\% of follow-ups. Average life duration with traditional treatment of relapses by chemotherapy remains low and is 9 to 12.5 months. It is of primary importance to find new treatment methods for this patients category.

Material and methods: New technique of combined therapy was developed at the FSI RRCRST and used for 55 patients with relapses of ovarian carcinoma. The technique included systemic radiation therapy as subtotal body radiation (STBR) and chemotherapy (ChTh). STBR was performed with linear electron accelerator at the volume from the diaphragm cupula to feet with a single dose of 0.1 Gy, total dose -1.0 Gy. On completing STBR 6-9 courses of chemotherapy were given in a routine regimen, mainly with taxanes and platinum agents.

Results: The use of new treatment technique enabled to improve greatly direct and late outcomes. The use of STBR with in a combination ChTh led to the increase of remission rate from 32.8 at routine chemotherapy up to 65.0\% with new technique. Direct 3-year survival with the new method was 22.5\% as compared with 4.0\% with chemotherapy. 5-year survival made 15.0\% against 3.5\%. Repeated use of STBR for patients treatment with ovarian carcinoma relapses is under study.

Conclusion: According to the achieved results the technique of combined treatment for ovarian carcinoma relapses including STBR and ChTh can be considered efficient and advanced.
IS LAPAROSCOPIC HYSTERECTOMY FOR EARLY CERVICAL CANCER A REALISTIC GOAL WITH CURRENT SKILL AT PRIVATE HOSPITAL IN MACEDONIA

Nikola Badzakov, B. Sardzovski, E. Matevska, N. Shikov, K. Kubelka, D. Jashar

Gynecologic Oncology, Clinical Hospital 'Sistina', Department of Ob/Gyn. 'Mala Bogorodica', Skopje, FYR Macedonia

Background: to describe our experience and technique of laparoscopic radical hysterectomy (LPSRH) with pelvic lymphadenectomy, which is the first institutional experience in Macedonia.

Methods: 11 patients with early invasive cervix carcinoma were included in study. Laparoscopic radical hysterectomy with pelvic lymphadenectomy was done. Simple repetitive steps used to perform this surgery and develop an easily replicable technique. Harmonic shears (Ethicon Endo Surgery) and Liga Sure (Valleylab, Tyco Healthcare) were used for lymphadenectomy and dissection of ligamentary and vascular tissue in the pelvis.

Results: histopatologically, 8 (73%) cases were with squamous carcinoma, 3 (27%), were adenocarcinoma. The operation was performed entirely by laparoscopy in all patients and by the same surgical team. The patients median age was 49 years (range 39-63), the median operative time was 260 min. (range 210-350), the median blood loss was 170 ml (range 90-210), the median number of resected pelvic nodes were 25 (range 17-39), the median parametrial resection was, left 2.0 cm, right 2.4 cm, the median vaginal tissue resected was 1.3 cm (range 0.7-2.3). None patient converted to the open technique. The median bladder drainage was 2 days, the median length of hospital stay was 5 days.

Conclusions of the study: our technique of LPSRH is performed safety, oncologically comparable to open surgery in terms of margins, lymph node clearance and parametrial resection. It's technically feasible and economically visible, there is less postoperative pain and earlier ambulation and return to work. The patients are also able to start adjuvant therapy earlier.
SURGICAL EMERGENCIES IN GYNAECOLOGIC MALIGNANCIES - A PROFILE

Department of Gynaecologic Oncology, Kidwai Memorial Institute of Oncology, Bangalore, India

Objectives: The aim of the study is to investigate the range of surgical emergencies in gynaecologic malignancies, the demographics, indication for surgery, treatment complications and outcome.

Material and methods: Between January 2001 and December 2010, those patients who had undergone surgical treatment for gynaecologic cancers were analysed retrospectively. Patient characteristics, operative details, and postoperative complications and mortality were extracted from patients' charts.

Results: All patients who met the above criteria formed our study group (n=89). The mean age of the patients was 44 years. Mean length of the hospital stay was 26 days. The indications for laparotomy were evisceration (26), intestinal obstruction (27), anastomotic leak (17), intestinal perforation (10), secondary haemorrhage (4), abdominal abscess (3), rectus sheath hematoma (1), and strangulated hernia (1). The perioperative complications were wound infection (10), pneumonitis (8), enterocutaneous fistula (6), evisceration (4), and pulmonary embolism (1). Thirteen (14.6%) patients succumbed in the postoperative period.

Conclusion: In our study evisceration, intestinal obstruction and anastomotic leak were the most common surgical complications. The complications were encountered most commonly in patients with advanced ovarian malignancies and poor nutrition. The complication of the treatment is a significant cause of morbidity. The morbidity can be reduced by improving the nutrition, better patient selection and consideration of neoadjuvant chemotherapy for advanced ovarian malignancy.
THE ROLE OF TOTAL LAPAROSCOPIC HYSTERECTOMY IN TREATING MORBIDLY OBESE PATIENTS WITH EARLY ENDOMETRIAL CANCER IN A UK TREATMENT CENTRE


Gynaecological-Oncology, Cancer and Surgery, Imperial College, Imperial Hospitals NHS Trust, London, UK

Objective: To compare feasibility, complication, recurrence and survival rates after total laparoscopic hysterectomies (TLH) in morbidly obese women with endometrial cancer.

Design: Retrospective analysis of cases over 6 years (February 2003 - January 2009) at a Gynaecological Cancer Centre in North West London, UK

Sample: Women with a BMI ≥ 40 with pre-operative suspected diagnosis of endometrial cancer

Patients who had undergone hysterectomy for endometrial cancer up to stage 2b (FIGO 1988 classification) were identified. Analysis of patients with BMI ≥40 was done. Databases and clinical notes was analysed for intention to treat.

Main outcome measures: Immediate and delayed operative outcomes, endometrial cancer recurrence and survival are reported. Operating time, estimated blood loss (EBL), the length of hospital stay and return to normal activities are also reported as an outcome measure.

Results: There were 53 patients with a BMI≥ 40 who underwent Total Laparoscopic Hysterectomy in this 6 year period with a histological confirmed diagnosis of Endometrial Cancer.

There was 1 conversion from TLH to TAH in this group (1.88%). The median overall operating time was 75 minutes. The overall median estimated blood loss at surgery was 75mls and median hospital stay was for 2 nights. The median time taken to return to normal work was 14 days. The median Overall Survival (OS) and Disease Free survival (DFS) was 34.5 months

This study demonstrates that in morbidly obese patients with endometrial cancer, TLH has reduced post operative morbidity and recovery time, without any increase in serious intra-operative complications or disease recurrence.
ROBOT ASSISTED SURGICAL STAGING FOR ENDOMETRIAL CANCER- SINGLE CENTRE EXPERIENCE IN INDIA

Sabhyata Gupta, P. Tandon, P. Batra, S. Shradha, R. Bansal

Dept. of Gynaecology & Gynaecology-Oncology, Medanta-The Medicity, Gurgaon, India

Robotic surgery is the latest development in minimal invasive surgery in gynaecology. With many technological advantages, it allows the surgeon better vision, autonomy, surgical dexterity, precision and control of the surgical field. Global evidence demonstrates the safety and feasibility of the robotic approach for gynaecologic oncology surgery & lower conversion rate to laparotomy.

For staging of endometrial cancer robot-assisted surgery may be the most effective, least invasive treatment option. Through tiny incisions we can operate with greater precision and control, better surgical dissection, particularly for lymph nodes. It enables us to perform surgical staging in morbidly obese patient & minimize the pain and risk associated with large incisions while increasing the likelihood of a fast recovery and excellent clinical outcomes.

Other advantages of the robotic approach include three-dimensional imaging, reduced blood loss, and shortened hospital stay and recovery time.

Ours is the first Gynaecology team to do Robotic surgery in India. In my presentation I will describe our experience, technique & outcome of robot assisted surgical staging for 5 cases of endometrial cancer. There was ease of operation because of better visualization and range of motion of robotic instruments and there were no per-operative or post-operative complications. However higher cost of surgery continues to limit a wider usage. Experience is still in its infancy & prospective trials are needed to compare the efficacy against conventional laparoscopy and the staging laparotomy.
LAPAROSCOPIC PELVIC LYMPHADENECTOMY: EXPERIENCE OF A GYNAECOLOGICAL CANCER CENTRE IN THE UK

Vrunda Karanjgaokar1, J.T. Wright2, D. Murphy3, C.H. Mann3

1Dept. of Obstetrics & Gynaecology, Worthing Hospital, Worthing, 2Department of Gynaecology, Chertsey Hospital, Chertsey, 3Department of Gynaecological Oncology, Royal Wolverhampton Hospitals NHS Trust, Wolverhampton, UK

Introduction: The role of laparoscopic lymphadenectomy in the management of gynaecological cancers has been established over the last two decades, having been first described in 1989 by Dargent and Selvat. It has been shown that laparoscopic lymphadenectomy can be performed in the majority of patients and is associated with a low complication rate.

Aims and objective: To assess the feasibility and the complication rate with laparoscopic lymphadenectomy.

Design: Retrospective study over a ten year period from 1999-2009

Material and methods: 42 women with gynaecological malignancy who underwent laparoscopic pelvic lymphadenectomy at Royal Wolverhampton Hospitals NHS Trust.

Results: The mean operating time was 103.92 min, mean number of nodes excised were 11.23, mean hospital stay was 2.47 days, unintended conversion to laparotomy in 6 (14.3%) women and overall major complication rate was 6.9%.

Conclusion: Our experience with laparoscopic lymphadenectomy has shown that it is a safe and feasible procedure with comparable results for nodal count, operating time and complication rate to those found in other Centres outside of the UK. A large prospective audit would be desirable and would allow collection of a data set that would include more representative facts such as the accurate operating time and oncological issues such as impact on management survival and long term morbidity.
ROBOTIC SURGERY IN GYNECOLOGIC ONCOLOGY: TWO MONTH EXPERIENCE

Jason McMaster, S. Dowdy

Department of Obstetrics and Gynecology, Mayo Clinic, Rochester, MN, USA


Aim: This study aims to describe the utilization and common practices of gynaecological robotic surgery undertaken in a busy oncology practice.

Methods: The operative records of 62 patients that underwent surgical intervention via the da Vinci robotic system during an eight week period, from August 1st, 2010 to October 15th, 2010 were reviewed retrospectively. Data points included demographics, peri-operative course, and post-operative course. Data was collected only for the time the patient was in hospital, not post initial hospital discharge.

Results: The mean age of all patients undergoing robotic surgery was 50 years with 100% (62) of this series being female. 77% (48) were from Minnesota while 23% (14) of patients hailed from other states of the USA. 96% (50) of these patients were of Caucasian decent with 1 patient being of African American ethnicity and 1 patient was undeclared. Half of the study group were obese (31) and 19% were overweight (12), one individual was underweight.

Benign pathology accounted for 53%(33) of cases 48% (18) of these were leiomyoma; malignancy (47%, 29) was primarily endometrial cancer 83% (24). With one case of ovarian cancer, one case of carcinosarcoma, and two cases of cervical cancer. The average wait from clinic to surgery was 1.45 days. Average blood loss was 116.4mls (range minimal-1000mls) with only 1 patient transfused. On average, 42.8 minutes (range 26-106) were required to set up the robot; average operating time was 176.7 minutes (range 61-378). The average days to discharge were 1.2 (range 1-2). Intraoperative complications included a bladder perforation, vaginal laceration and rectal tear. 0.03% (2) conversions to open procedures occurred due to one case of extensive adhesions and another case were the patient could not tolerate the Trendelenburg position. Wound infection rate was 0%.

Conclusion: Current evidence demonstrates the safety and feasibility of the robotic approach for gynaecologic surgery. Well-designed, prospective studies with long-term clinical outcomes, including complications, cost, pain and return to normal activity are needed to fully assess the value of this emerging technology.
IBANDRONATE IN THE TREATMENT OF PATIENTS WITH BREAST CANCER WITH METASTATIC BONE DISEASE

Assia Bensalem¹, S. Boulfekhar¹, A. Benlakhlaf¹, K. Bouzid²

¹Medical Oncology Constantine, Constantine, ²Medical Oncology CPMC Algiers, Algiers, Algeria

Background: Bisphosphonates (BP) are standard care for breast cancer (BC) in patients (pts) with metastatic bone disease (MBD). In randomized clinical trials (RCT) ibandronate (IBA), a BP available in IV and oral formulations, demonstrated sustained effects on skeletal related events (SRE) and bone pain. A study was conducted in Constantine, in the east of Algeria.

Methods: BC pts with MBD received 6 mg IBA IV every 4 weeks for up to 24 weeks. Pain severity (VAS), analgesic use, SRE, and renal function were recorded in 4-week intervals.

Results: 63 pts, mean age 53.5 years, were evaluated; (60%) were BP-naïve; (10%) had received prior treatment with IBA, (30%) with other BPs, including zoledronic acid (ZOL) (14%) and pamidronate (5%). Mean pain severity (VAS) was lower for pts pretreated with IBA compared to BP-naïve pts and analgesic use was less frequent. In pts reporting pain at baseline, mean pain severity decreased on IBA treatment throughout the observation period. In parallel, there was an overall reduction of analgesic use with 55% of pts not requiring analgesics at the last observation. SRE were rare (9%), irrespective of prior treatment. Changes in renal function during IBA treatment were small and balanced across all subgroups. Overall tolerability of IBA treatment was rated as good or very good.

Conclusions: In this study in BC pts with MBD, the use of IBA, IV, showed marked and sustained pain relief with an overall reduction of analgesic use and a renal safety profile comparable to results of RCT.
A CASE OF GRANULOSA CELL TUMOR OF THE OVARY THAT PALLIATIVE RADIOTHERAPY SUCCEEDED


Obstetrics and Gynecology, Naha City Hospital, Naha City, Japan

Introduction: The majority of cases of granulosa-cell tumor of ovary is discovered early-stage, and the prognosis is good. However, the prognosis of advanced cases is poor, palliative therapy is main treatment. we report that a case of granulosa cell tumor of the ovary that palliative radiotherapy was effective.

Case report: 76 year-old, 3-0-0-3. She visited the other hospital in chief complaint for sense of abdominal distension and abnormal uterine bleeding.

She was indicated a large pelvic tumor and did laparotomy, but tumor adhesion to the abdominal wall was very strong and tumor biopsy only was done. The tumor pathology diagnosed granulosa cell tumor, adult type and she was suggested palliative therapy. after then, she visited the our hospital. CT findings showed multiple abdominal tumor and liver metastasis. She selected radiation therapy as the palliative setting and irradiated total 50.4Gy in involved field. Without an adverse event in particular, she accomplished a treatment. The main tumor reduced about 60% and now she lives without a last adverse event in 2 years and keeps progressin-free survival.

Conclusion: Radiation therapy to granulosa cell tumor of the ovary is effective as palliative setting.
FALLOPIAN TUBE CARCINOMA: A DIFFERENTIAL DIAGNOSIS NOT TO BE FORGOTTEN!


1Obstetrics & Gynecology, 2Cytology & Gynecologic Pathology, 3Radiotherapy, Postgraduate Institute of Medical Education & Research, Chandigarh, India

Background: Fallopian tube carcinoma is rare and accounts for 0.18-1.6% of gynaecological malignancies. Due to its non-characteristic signs and symptoms, fewer than 5% are diagnosed pre-operatively.

Case I: A 59 years lady presented with abdominal pain and high-grade fever for one month. Abdominopelvic CT scan and sonography were normal except for minimal fluid in the uterus which was drained. PAP smear and endometrial biopsy showed atrophic changes. She continued to have fever & six months later, sonography revealed a right adnexal echogenic mass (4.6x2.3cm). Her CA-125 was normal. She underwent hysterectomy with bilateral salpingo-oophorectomy; histopathology showed transitional cell carcinoma of the right fallopian tube. Peritoneal biopsy showed granulomatous inflammation and she was started on anti-tuberculous treatment due to continuing fever in the post-operative period. She received 6 cycles of cisplatinum based combination chemotherapy, and her fever subsided after the 2nd cycle. She is disease-free 10 months later.

Case II: A 55 years lady presented with postmenopausal bleeding and vaginal discharge. She was treated for infiltrating ductal breast carcinoma 23 years ago. Pap smear was inflammatory, endocervical curettings showed squamous cell carcinoma. She underwent radical hysterectomy with bilateral salpingo-oophorectomy. There was a small mass in the left fallopian tube and two small nodules in the endocervix which were reported as transitional cell carcinoma with metastasis to the cervix. She received 6 cycles of cisplatinum based combination chemotherapy and is disease-free 12 months later.

Conclusion: Carcinoma of the fallopian tube should be considered in postmenopausal women with atypical presentation.
IS HRT SAFE FOR SURVIVORS OF GYNAECOLOGICAL CANCERS?

Sandeep Sharma

Obstetrics and Gynaecology, Pinderfields General Hospital, Wakefield, UK

**Background:** There were 46,146 cases of gynaecological cancers in England between 2005 and 2007. Of these 2085 were below 44 years of age. Treatment often causes many of these women to go through premature menopause. This can cause distressing symptoms and increases risk of osteoporosis. There is a reluctance to offer these women hormone replacement therapy because of fears of recurrence.

**Aims:** A systematic review was carried out on the risks of hormone replacement therapy in women treated for different gynaecological cancers. The words used to search the databases were: gynaecological cancer, HRT, survivors, menopause, premature, quality of life.

**Methods:** A thorough search was made on MEDLINE, Cochrane database and a hand search through related articles in the English language.

**Results:** Most of the papers were retrospective and observational though two randomized studies in survivors of endometrial and ovarian cancer were identified. HRT is not recommended in low grade endometrial stromal sarcomas while it is best avoided in granulosa cell ovarian tumours. There does not seem to be any evidence of an increase in recurrence or reduction in cancer free survival in survivors of endometrial and ovarian cancers who used HRT.

**Conclusions:** Younger women who go through menopause due to treatment received for Gynaecological malignancies can suffer from menopausal symptoms and are at risk of developing osteoporosis. Except for a few cancers there is no evidence that HRT has any effect on survival. Hence, HRT use should be discussed with these women and its use individualized.
THE BENEFITS OF ENTEROSTOMY FOR THE PATIENTS WITH GYNECOLOGICAL MALIGNANCIES

Akira Yoshizaki, H. Omi, M. Kagabu, T. Shoji, F. Miura, T. Sugiyama
Obstetrics and Gynecology, Iwate Medical University, Morioka-Shi, Japan

We studied that the effects of enterostomy for the patients with gynecological malignancies. From 1998 to 2009, 17 patients were received 14 colostomy and 3 ileostomy. Patients included 10 occlusion of alimentary canal by enlarged abdominal tumor, one colostomy at the first de-bulking surgery and 6 recto-vaginal fistula due to radiation therapy. Median age of first therapy for malignancy was 56.9 yo, duration between first therapy and colostomy or ileostomy was 19.0 month, and median survival duration after enterostomy was 15.2 month. Performance status (P.S.) was improved significantly from 2.07 (before) to 1.29 (after): p=0.005, student t-test). Body weight was decreased from 48.65kg to 45.75kg (median: p=0.004, student t-test). In 14 cases, intra venous chemotherapy was performed following the enterostomy and one case received whole pelvic irradiation. Two cases died within two months after the operation. There were two closure cases. The establishment of enterostomy contributed for improving the P.S. of patients. We assumed that the body weight loss occurred by removing the intestinal contents through newly established colostomy or ileostomy. Our findings encouraged that setting enterostomy for the gynecological malignancies should be considered for the patients with bowel obstruction and/or recto-vaginal fistula.
ANALYSES OF SURVIVAL OUTCOMES FOR WOMEN WITH UTERINE MALIGNANCY UNDERGOING ROBOTIC-ASSISTED LAPAROSCOPIC STAGING PROCEDURES

L.A. Brudie 1, F.J. Backes 2, Sarfraz Ahmad 1,3,4, N.J. Finkler 1,3,4, G.E. Bigsby 1,3,4, D.E. Cohn 2, D.M. O'Malley 2, M. Farrell 2, J.M. Fowler 2, R.W. Holloway 1,3,4

1Gynecologic Oncology, Florida Hospital Cancer Institute, Orlando, FL, 2Obstetrics & Gynecology, Ohio State University, Columbus, OH, 3College of Medicine, University of Central Florida, 4College of Medicine, Florida State University, Orlando, FL, USA

Objective: To evaluate progression-free survival (PFS) and overall survival (OS) for patients who underwent robotic-assisted laparoscopic staging (RALS) for uterine malignancy, with analysis of adjuvant therapies.

Methods: Medical records of 372 patients with uterine malignancy who underwent RALS from 3/06 to 3/09 were reviewed. Follow-up for survival analyses ranged 18-54 months as of 9/10.

Results: Mean age was 61.8±9.8 years, BMI=32.2±8.4 kg/m². Fifteen (4.0%) cases underwent RAL hysterectomy (RALH), 98 (26.3%) underwent RALH and pelvic lymphadenectomy, 259 (69.6%) underwent RALH pelvic-aortic lymphadenectomy. 85% cases had endometriod histology. Tumor was G1=244 (65.6%), G2=69 (18.5%), G3=58 (15.6%) cases. FIGO-1988 Stages were: I=303 (81.5%), II=18 (4.8%), III=45 (12.1%), IV=5 (1.3%). Mean node count was 23.0±11.6 (pelvic=16.8±8.7; aortic=8.3±4.5). 24/372 (6.5%) cases had positive nodes. Adjuvant treatment was prescribed for 28.5% of patients: 8.9% radiation, 7.8% chemotherapy, 11.8% chemotherapy/radiation. Median follow-up for OS was 30±9.3 months and for PFS was 23.0±11.6 months. Recurrence rate for all stages was 7.3% and 20 (5.4%) patients died. Disease-specific mortality was 3.5%. Sixteen (5.3%) Stage I patients recurred, half of whom had high-risk histologies. Eight (2.6%) low and intermediate risk (G1-G2) Stage I cases relapsed (4 vaginal, 2 nodal, and 2 peritoneal). Kaplan-Meier survival analysis for stage I patients revealed OS=95.8% and PFS=89.9% at 3-years. Weibull distribution model predicted a Stage-I 5-year OS=92.4% and PFS=79.6%.

Conclusions: RALS appears equivalent to other surgical methods for staging uterine malignancies with respect to stage distribution, PFS, and OS in this early analysis. Recurrence rate of low risk G1-2 cases was 2.6%.
A 5 YEAR PROFILE OF ENDOMETRIAL CANCER


Surgical Oncology, Amrita Institute of Medical Sciences, Kochi, India

Introduction: Carcinoma Endometrium is the Fourth most common gynecologic cancer in India. Most of the cases are still operated and followed up by Gynecologists at local hospitals. This study is a retrospective analysis of all cases of Carcinoma endometrium managed at our Institute from 2004-2008.

Aims and objectives: To evaluate the presentation, treatment and outcome of all cases of carcinoma endometrium who were treated at our Institute from 2004-2008.

Methods and results: Descriptive analysis done in SPSS 11. 152 patients were treated at our Institute during this period. 18.3% were premenopausal and 81.7 % postmenopausal. More than half of the cases were operated by Oncosurgeons (58.3%) rest of the cases (41.7%) was operated by Gynaecologists with no training in oncology. Hysterectomy with bilateral oophorectomy and lymphadenectomy was done for 54.1% (all cases operated by Oncosurgeons) whereas 45.9 % had only hysterectomy with oophorectomy. Most of the cases belonged to stage I (76.5 %), 9 % had stage II disease, patients with stage III and IV were 14.5 %. Endometroid type was the most common pathology (83.8 %). 35.5 % received Radiation; 8.6% adjuvant chemotherapy. At the time of analysis 76% of patients are alive and well, 4 % had recurrence after treatment. Log rank analysis shows a trend towards better survival in patients who had lymphadenectomy.

Conclusion: A significant number of cases of carcinoma endometrium are still operated by gynecologists even in urban areas where cancer centers are available. There is a trend towards better survival in patients who were operated by oncosurgeons.
DOES PRESENCE OF POSITIVE PERITONEAL WASHINGS IN ENDOMETRIAL CANCER HAVE ANY CORELATION WITH DIAGNOSTIC MODALITY?

T. Amin¹, Jayanta Chatterjee¹, R. Lyus², S. Saso¹, A. McIndoe¹, S. Ghaem-Maghami¹

¹Gynaecological Oncology, Cancer and Surgery, Imperial College, Imperial Hospitals NHS Trust,  
²Obstetrics and Gynaecology, Northwick Park Hospital, London, UK

Objective: It has been hypothesized that hysteroscopy may increase the incidence of positive peritoneal washings (PPW) in women with uterine cancer due to trans-tubal tumour implantation in the peritoneal cavity.

Setting: Gynaecological Cancer Centre, North West London, UK

Method: A retrospective case review was conducted between 2005-2009.

Results: 189 of 243 patients had peritoneal washings of which 13 had positive cytology (6.9%). 7 of these had hysteroscopy (54%), 3 had pipelle endometrial biopsy (23%) while there was no documentation in 3 (23%). The incidence of PPW was not statistically different between the groups. The histological distribution for PPW group showed Serous papillary in 46.1%; Endometrioid in 30.8%; Clear cell in 15.4%, and Malignant Mixed Mullerian Tumour (MMMT) in 7.7%. The distribution of endometrioid and non-endometrioid cancers between the 2 groups was statistically significant (p = 0.0017). Early stage disease accounted 7.7% of the positive PW group and 87% of the negative PW group (P = 0.0001). Results of PW had an effect on staging and management in 3 patients with endometrioid cancer. 2 patients were upstaged from 1A to 3A based on the old FIGO guidelines and underwent chemo-radiation. The third patient with grade 1A disease and PPW was not upstaged based on the new guidelines and underwent surgical management alone. All 3 are so far disease free with an average follow-up of 34 months.

Conclusion: Hysteroscopy does not seem to increase the incidence of PPW in women with endometrial cancer. Cytology alone is not an important prognostic factor.
**ENDOMETRIAL STROMAL SARCOMA: A RARE PRESENTATION IN 15 YEAR OLD GIRL**

Anjana Suresh Chauhan¹, K. Dave¹, A. Ruchi¹, P. Bhavesh², B. Devang³, P. Trupati⁴

¹Gynec-Oncology Department, ²Medical Oncology Department, ³Radiotherapy Department, ⁴Pathology Department, Gujarat Cancer & Research Institute, Ahmedabad, India

**Capsule:** Endometrial Stromal Sarcomas are tumor of the uterus very difficult to diagnose because of the rarity & no obvious clinical presentation.

A 15 year old girl was referred with endometrial polyp report: low-grade endometrial stromal sarcoma (ESS). She had polymenorrhagia, diagnosed having endometrial collection on sonography. She underwent EUA by the referring doctor. On the EUA finding suggest mass coming from the uterus protruding from the cervix, biopsy taken reported as low-grade ESS.

At our institute, CT-scan reported uterus enlarged -12x11x9cm. Again EUA & fractional curettage done. Her cervix was looking normal but uterus was enlarged about 14 weeks size of pregnancy. On curettage whole of the uterine cavity was diseased with lots of profuse cheesy material. The HP reported: Suggestive of endometrial stromal tumor.

**Staging Laprotomy** - TAH&BSO, bilateral pelvic node dissection & infracolic omental sampling was done.

**Histopathology report Macroscopic:** Uterus size: 17x13x5 cm. Polypiodial exophytic growth involving the anterior and posterior uterine wall measuring 7x5x3 cm. Growth involves more than ¾ thickness of uterine wall.

**Microscopic:** Endometrial stromal sarcoma, low grade involving anterior and posterior wall of the uterus. Mitosis - 10-12/10hpf. Lymphovascular permeation seen. Cervix, nodes, ovary, omentum are negative.

**Immunohistochemistry diagnosis:** Endometrial stromal sarcoma. ER - positive, PR - positive, CD10 - inconclusive, Vimentin - positive, Actin - focal positive, Desmin - negative.

**Adjuvant therapy:** She received pelvic radiotherapy followed by chemotherapy (Pacilaxtel & Carboplatin)
MINILAPAROTOMY FOR HYSTERECTOMY AND STAGING LYMPHADENECTOMY IN PATIENTS WITH EARLY ENDOMETRIAL CANCERS

Linus Chuang¹, H. Gretz¹, D. Tsin¹, F. Nezhat²
¹Mt. Sinai School of Medicine, ²St. Lukes Roosevelt Hospital, Columbia University, New York, NY, USA

Objective: To compare minilaparotomy with exploratory laparotomy and laparoscopic surgery for patients with early endometrial cancers.

Materials and methods: This retrospective study included twenty patients with early endometrial cancers who had laparoscopic and exploratory approaches and 10 patients who underwent laparotomy were matched for comparison. Minilaparotomy was performed using the elastic retractor that allowed the operative field to be enlarged over the same skin incision in more than 30% than any dilator or metallic retractor. A Transverse incision up to 6 cm was performed. Results were analyzed using Fisher’s exact and Student’s t-tests.

Results: The mean age of the patients (61 years), body mass index (25) was similar in the three surgical groups. The mean weights of the uterus was larger in the exploratory laparotomy group (240 gm vs 85 gm, p< 0.001). The mean numbers of lymph nodes removed was 12 for minilaparotomy group, 16 for the laparoscopic group and 20 for the exploratory group (p=0.22). The mean operative time was similar to laparotomy group (112 and 100 min) but shorter than laparoscopic group (160 min; p< 0.01); the hospital stay in the minilaparotomy and laparoscopy groups were shorter than exploratory group (1.8 vs 2.3 vs 5.2 days; p< 0.001). Postoperative complications were similar in the three surgical groups.

Conclusions: The minilaparotomy approach using elastic retractor is feasible for patients with early endometrial cancers. It is associated with low complication rates and short hospital stays.
MULTIPLE MOLECULAR PATHWAYS IN DEVELOPMENT OF UTERINE SEROUS CARCINOMA

Ali Dastranj Tabrizi¹, B. Gilks²

¹Pathology, Tabriz University of Medical Science, Tabriz, Iran, ²Pathology, University of British Columbia, Vancouver, BC, Canada

Although endometrial serous carcinoma is an uncommon uterine tumor but accounts for disproportionate number of endometrial cancer death. Development of frankly invasive uterine serous carcinoma from endometrial intraepithelial carcinoma (EIC) and recently recognised pathway through endometrial glandular dysplasia (EmGD) to intraepithelial and invasive serous carcinoma has been proposed. On the other hand endometrial intraepithelial carcinoma considered a thiny focus of serous carcinoma by some investigators. We document our histologic and immunohistochemical findings in 26 cases of endometrial serous carcinoma and their putative precursor lesions, which had involved endometrial polyps. Immunostaining for six markers including P53, PTEN, Ki67, P16, ER, and PR were performed in selected sections of these polyps. In five cases (19.2%) endometrial glandular dysplasia (EmGD) which characterised by glands lined by atypical cells but not fulfil the endometrial intraepithelial carcinoma criteria were identified with similal immunohistochemical findings of EIC and invasive component. In other four cases(15.3%), atypical hyperplastic glands with variable immunohistochemical characters merged topographically with invasive serous carcinoma glands . As a control group we examined 8 cases of atypical endometrial hyperplasia with no associated carcinoma also..This study findings support our speculation about different molecular pathway in developing uterine serous carcinoma, i.e.; P53 mutation as an essential event in serous tumorigenesis may occur in benign appearing endometrial glands (p53 signature), EmGD lesions , atypical hyperplastic glands and high grade endometriod carcinoma. In conclusion, clear understanding of molecular mechanisms of serous carcinogenesis and identification of precursor lesions may lead to designing early detection and prevention strategies.
GYNAECOLOGIC MALIGNANCI ES IN POST-MENOPAUSAL WOMEN- AN OBSERVATIONAL STUDY

Leela Digumarti, B. Katamreddy
Obstetrics and Gynaecology, St Theresa’s Hospital, Hyderabad, India

Objective: To enumerate the gynaecological malignancies in post-menopausal women at at the Obstetrics and Gynaecology Clinic, St. Theresa’s Hospital, Hyderabad India. It is a prospective observational study - August 2007 to November 2010

Methodology: A detailed history, general and gynaecological examination was carried out in all. Necessary investigations were done including PAP smear, pelvic sonography, hysteroscopy, endometrial biopsy, cervical biopsy, etc. Treatment was planned based on the diagnosis.

Results: 176/3350 were post-menopausal (5%). 25/176 (14.7%) had genital malignancy. Age ranged is 45 - 75 years. 20/25 women presented with post-menopausal bleeding, 2 had abdominal lump, 1 labial swelling, 1 white discharge, 1 with vague symptoms.

Amongst these women, 12 cervical, 10 endometrial, 2 ovarian and 1 leiomyosarcoma of labium majus were diagnosed.

Of the 10 with endometrial cancer, 8 were in stage 1 and underwent surgery. Only 3/12 with cervical cancer were in stage 1 and underwent a type 3 radical hysterectomy. 2 women with ovarian cancer were in Stage 3 and had cytoreductive surgery followed by chemotherapy. The single woman with labial leiomyosarcoma underwent radiotherapy.

Conclusions:

1. Post-menopausal bleeding is a common presenting symptom - quick evaluation helps in picking up early stage endometrial carcinoma.
2. Gynaecological cancer must be included in the work up of all post-menopausal women.
3. Exposure to gynecologic oncology training widens the vision of a general gynaecologist.
IQGAP1 STIMULATES MIGRATION OF ENDOMETRIAL CANCER CELLS THROUGH ACTIVATION OF B-RAF/ERK PATHWAY

Peixin Dong¹, M. Kaneuchi², N. Sakuragi²
¹Gynecology, ²Hokkaido University, Sapporo, Japan

Introduction: IQGAP1, a scaffolding protein, function as a key regulator of cell migration in several types of human carcinoma.

Objective: The aim of the present study was to investigate the effects of IQGAP1 expression on cell migration and underlying mechanistic basis in endometrial cancer.

Methods and results: We first evaluated the association of IQGAP1 gene expression with migration ability in endometrial cancer cell lines, and found that IQGAP1 protein levels significantly associated with enhanced migratory activities in endometrial cancer cells. We then generated endometrial cancer cells that stably over-express IQGAP1 in HHUA cells, which express low level of IQGAP1. We found that over-expression of IQGAP1 enhances motility of HHUA cells and activated B-Raf/ERK-dependent pathway. Conversely, silencing expression of IQGAP1 in HEC-50B cells, which express high levels of IQGAP1, inhibited cell migration and led to inactivation of B-Raf/ERK-dependent pathway. Furthermore, transfection of HEC-50B cells with B-Raf siRNA resulted in decreased cell motility and blocked ERK activity. In addition, treatment of HHUA cells with ERK inhibitor U0126 significantly reduced IQGAP1-increased cell motility.

Conclusion: These results suggest that IQGAP1 plays a pivotal role in enhancing the migration of endometrial cancer cells by activating B-Raf/ERK-dependent signaling pathway.
SIGNIFICANCE OF HYSTEROSCOPY IN DIAGNOSTICS OF ENDOMETRIAL CANCER

Daniel Driak1, B. Sehnal1, M. Dvorska1, P. Holy1, M. Halaska1, K. Benkova2, Z. Spurkova2

1Department of Gynaecology and Obstetrics, First Faculty of Medicine and University Hospital Bulovka, Charles University, 2Department of Pathology, University Hospital Bulovka, Prague, Czech Republic

Background and aims: Endometrial cancer’s incidence in Czech Republic is 32/100 000 women a year whereas its mortality remains low, with a ratio of 6/100 000 women a year. In hysteroscopic diagnostics, with the use of liquid distension medium, the most controversial concern is the risk of microscopic dissemination of cancerous cells within the peritoneal cavity and circulation, and the likely possibility that the high pressure of medium may multiply the risk. The aim of the study was to detect malignant cells in peritoneal washings after previous hystero-resectoscopy.

Methods: A total of 407 endometrial biopsies were collected under diagnostic or operative hysteroscopy during the years 2007-2009 at our clinic. In 56 patients, endometrial cancer was diagnosed. Afterwards, 45 women underwent surgery, during which peritoneal washing for cytological examination were performed.

Results: In 44 cases that underwent radical surgery, no cancerous elements in peritoneal washings were found. Only in 1 case, the cytology was considered to be suspicious. In 9 cases, carcinoma at the base of the polyps was detected and in 2 cases, no residuum of cancer was observed after hysterectomy.

Conclusions: Based on the study, we suggest that hystero-resectoscopy does not increase the risk of dissemination of malignant cells within the peritoneal cavity and does not worsen the prognosis of the disease. On the contrary, the samples taken under direct visual control provide more precise and earlier diagnostics of endometrial cancer.

This work was supported by grant No. NR 9313-3/2007, IGA, Ministry of Health of the Czech Republic.
SIGNIFICANCE OF APOPTOSIS IN ENDOMETRIAL CANCEROGENESIS - EXPRESSION OF CERTAIN APOPTOTIC MARKERS IN HUMAN ENDOMETRIUM

Daniel Driak1, M. Dvorska1, B. Sehnal1, M. Halaska1, K. Benkova2, Z. Spurkova2, I. Svandova3

1Department of Gynaecology and Obstetrics, First Faculty of Medicine and University Hospital Bulovka, Charles University, 2Department of Pathology, University Hospital Bulovka, 3Department of Physiology, Faculty of Science, Charles University, Prague, Czech Republic

Background and aims: Defects in apoptosis may contribute to neoplastic transformation. In the study, we evaluated the expression of proteins Bcl-2, Bax and PARP, and executive apoptotic enzyme caspase-3 in normal, atrophic, hyperplastic and cancerous endometrium.

Methods: Endometrial samples were obtained from patients after undergoing curettage, hysteroresection or hysterectomy. Protein levels were quantified by immunoblotting.

Results: We observed a higher level of an apoptotic enzyme Pro-Caspase-3 and its active form in hyperplastic and cancerous endometrium, when compared to normal endometrium. The value of Bcl-2/Bax ratio which reflects cellular resistance to apoptosis was determined as >1 for cancerous, normal, and atrophic endometrium. Thus, the effort to eliminate pre-neoplastic and neoplastic cells by apoptosis indicated by high Pro-Caspase-3 and caspase-3 levels seems to be overcome by a greater proliferative adjustment indicated by the higher Bcl-2/Bax ratios in the samples examined. PARP levels did not vary significantly among the groups. Levels of all examined proteins were significantly lower in atrophic endometrium.

Conclusions: Our results suggest that pre-neoplastic and neoplastic states of human endometrium are not influenced simply by changes in apoptosis but may also be affected by cellular proliferation. A high Bcl-2/Bax ratio as observed in cancerous endometrium can point to deregulation of apoptotic programs. Thus, the onset and progression of endometrial malignancy could be linked to increased cellular proliferation with defects in apoptotic control.

This work was supported by grants No. NR 9313-3/2007, IGA, Ministry of Health of the Czech Republic, and Ministry of Education of the Czech Republic, No. MSM 0021620858.
THE MANAGEMENT OF PATIENTS WITH UTERINE SARCOMAS: A SINGLE INSTITUTION EXPERIENCE

Ajeet Kumar Gandhi, D.N. Sharma, S. Pandit, S. Kumar, L. Kumar, N. Bhatla, P.K. Julka, G.K. Rath
All India Institute of Medical Sciences, New Delhi, India

Aim: To study the treatment outcome and survival of patients with uterine sarcomas.

Materials and methods: Medical records of 41 patients of uterine sarcomas treated from 2001 to 2010 were retrieved and analyzed for demographic profile, treatment given and the clinical outcome. Median age was 49 years (range 25-75 years). Of the 41 patients, 19 had carcinosarcoma, 13 had leiomyosarcoma and 9 had endometrial stromal sarcoma.

Results: Forty patients underwent surgery in the form of TAH+BSO+pelvic lymphadenectomy (17), TAH+BSO (17), TAH (4), and tumor debulking (2). One patient did not undergo surgery. Twenty four patients received adjuvant radiotherapy (dose 45-50.4 Gy) and 3 patients received palliative radiotherapy. Among the patients who received adjuvant radiotherapy, 14 patients received HDR brachytherapy (intravaginal in 9 and interstitial in 1) while 10 patients did not receive brachytherapy. Thirteen patients received chemotherapy (range 3-6 cycles). Median follow up was 32 months (range 1-58 months). Out of these 41 patients, 21 had no evidence of disease at last follow up. Median disease free survival (DFS) period for whole group was 31.4 months. Univariate analysis revealed that adjuvant radiotherapy was associated with significantly better DFS (49.2 months vs. 11 months; p=0.01) while patients age (p=0.45), chemotherapy (p=0.71), histology (p=0.26) did not have significant effect on DFS.

Conclusion: Our experience has shown that adjuvant radiotherapy significantly improves the survival of patients with uterine sarcomas. The other factors like age, histology, chemotherapy did not alter the prognosis of the patients.
ENDOMETRIAL CARCINOSARCOMA IN A PATIENT ON TAMOXIFEN FOR BREAST CANCER - A CASE REPORT

Olusegun Adegboyega Ilesanmi, R.I. Anorlu, J. Akindele, O. Olaleye, L. Ekujumi
Obstetrics and Gynaecology, Lagos University Teaching Hospital, Lagos, Nigeria

Introduction: Endometrial carcinosarcoma is a rare, aggressive disease, accounting for approximately 3% of all uterine neoplasms. The emergence of sarcomatous elements is considered the evolution of subclones arising from high grade endometrial carcinomas. Tamoxifen is a selective estrogen receptor modulator that is commonly used as adjuvant therapy in the treatment of breast cancer. The potential oncogenic effect of tamoxifen on the endometrium has been widely studied in recent years.

Methods: We report the case of an endometrial carcinosarcoma with severe atypical hyperplasia which developed while the patient was on tamoxifen five years after mastectomy for right breast cancer. A 65-year-old, para 6 +1, 6 alive, 15 years postmenopausal woman, known hypertensive and type 2 diabetic, Nigerian woman received tamoxifen as adjuvant therapy for following mastectomy for breast cancer in 2005. Four years after initiating tamoxifen treatment she presented with bleeding per vaginam. In December 2009, an endometrial biopsy was performed and an endometrial carcinosarcoma was diagnosed. She had total abdominal hysterectomy and bilateral salpingo-oophrectomy in May 2010. She died on the second post-operative day from pulmonary embolism. Figs 1-6 show the uterus, uterus and mass, and cut surface of the uterus showing connection between fleshy mass and encapsulated mass.

Conclusion: This case has shown that women taking tamoxifen for adjuvant therapy for breast cancer could develop high grade endometrial tumours and therefore need to be followed up properly.
A RETROSPECTIVE STUDY OF 42 CASES OF UTERINE SARCOMAS OVER A PERIOD OF 8 YEARS

Tejinder Kaur, S. Dhawan, V. Jain, S. Jain

1Gynaecological-Oncology, Mohan Dai Oswal Cancer Treatment & Research Foundation, Ludhiana MediCity, Ludhiana, India
2Gynaecological-Oncology, Ludhiana MediCity, Ludhiana, India

Introduction: Uterine sarcoma is a rare malignant tumour of the uterus. Most often the diagnosis is made on post operative histopathology.

Material and methods: From Jan. 2000 to Dec. 2008 - 42 cases of uterine sarcomas were registered at our centre. The age group ranged from 30 to 85 yrs. Most (83.3%) of the patients had irregular bleeding P/V or post-menopausal bleeding. Histopathologically mixed mullerian tumour (carcinosarcoma) was seen in 24 (57.14%). Leiomyosarcoma in 11 cases (26.19%), Endometrial stromal sarcoma in 7 cases (16.6%). 15 cases underwent surgery at our center and 29 cases were refered for further management after surgery was done outside. 2 patients underwent 2nd surgery at our center where myomectomy revealed leiomyosarcoma. Total abdominal hysterectomy and bilateral salpingoophrectomy was done in 4 patient. In addition retroperitoneal lymphadenectomy was done 8 patients with infracolic omentectomy in 3 patients. Patients who under went surgery outside - 4 patient had vaginal hysterectomy, 2 patient had myomectomy alone, 23 patient had total abdominal hysterectomy and with bilateral salpingo-oophrectomy. Post operative adjuvant radiotherapy was given in 24 patients. For Stage I high grade in 7 cases, stage 2 in 13 patients and 4 patients following local recurrence. Chemotherapy was given in stage III & IV (11 patients) or for recurrence by using Cisplatin, Ifosfamide. At 12-18 months follow up, 13/42 patients showed recurrence. 2 patients had progressive disease post-operatively.

Conclusion: Uterine sarcomas though rare are aggressive tumors of uterus. Pre-operative diagnosis is difficult with overall poor survival.
ACCURACY PREOPERATIVE ENDOMETRIAL SAMPLING FOR DETECTION OF HYPERPLASIA AND ADENOCARCINOMA

Farahnaz Keshavarzi¹, A. Nankali¹, T. Fakheri¹, N. Jalilian¹, A. Khoshay², M. Khoshay³

¹Obstetrics and Gynecology Department, Imam Reza Hospital, Maternity Research Center, ²Nursing Faculty, Kermanshah University of Medical Sciences (KUMS), ³Farhangian Clinic, Kermanshah, Iran

Background and aims: The aim of this study was undertaken to evaluate the ability of preoperative endometrial sampling with Dilatation & Curettage (D&C) in predicting accuracy of histopathologic of endometrial lesion.

Methods: 175 symptomatic women who were suspected of having endometrial and endocervical disease by their local gynecologists were enrolled in this study. D&C with anesthesia were performed in each patient. During a four-month period, 105 patients without medication were hysterectomy. Final hysterectomy specimens compared with preoperative D&C specimens.

Result: Sensitivity of D&C was 96% in patients with adenocarcinoma and 75% with atypical hyperplasia and 54% with simple hyperplasia. False positive of D&C in diagnosis of adenocarcinoma, atypical and simple hyperplasia were, 8.2%, 25% and 45% respectively. Good agreement was observed between the preoperative endometrial specimens with D&C and histological diagnosis of hysterectomy (Kappa = 0.72). Sensitivity and false positive of D&C in endocervical lesion was 23% and 76% respectively.

Conclusions: Preoperative endometrial sampling by D&C was sensitive and accurate for the diagnosis of endometrial lesion but was not sensitive for endocervical lesion.
UTERINE MALIGNANT MIXED MULLERIAN TUMOUR (MMMT), A SINGLE CENTRE EXPERIENCE


Surgical Oncology, Amrita Institute of Medical Sciences, Kochi, India

Introduction: MMMT, the commonest uterine sarcoma, is an aggressive tumour and has a bad prognosis. A retrospective chart review of MMMT cases treated from 2005-2010 was done.

Aims and objectives:

1. To analyse clinical & surgico-pathological characterististics

2. Analyse factors influencing outcome.

Results: There were 19 cases, of which 74% belonged to Stage I. The median age at diagnosis was 62 years (range 46 to 79 years). Majority to patient belonged to post-menopausal age group (17/19).

Surgery included Hysterectomy with BSO in all the patients. Pelvic Lymph node dissection was done in 79% of patients and 21.3% also underwent Para-aortic lymph node sampling. Spread outside uterine body was noted in 6/18 patients. The incidence of positive nodes was 17%. 47% underwent adjuvant treatment. The overall survival was 53% patients after a median follow up of 18 months. Analysis of factors influencing outcomes was done. Early stage of disease, grade I tumours, smaller tumour size and Lymphadenectomy showed statistically better survival. Type of Sarcomatous component (Homologous/Heterologous), sarcomatous predominance or adjuvant therapy did not influence outcome.

On multivariate analysis using Cox proportionate hazard model Stage of (0.016) disease and Size of tumour (0.001) were statistically significant predictors of survival.

Conclusions: While limited by cohort size, this review suggests that comprehensive surgical staging is needed. This has prognostic significance and lymphadenectomy seems to give survival advantage. Favourable prognosis is seen in early stage tumours and in lower grade. Smaller gross tumour and uterine size seems to markers of better prognosis.
TREATMENT OF PARA-AORTIC NODE-POSITIVE ENDOMETRIAL CANCER RECEIVING AN EXTENDED FIELD EXTERNAL-BEAM RADIOThERAPY WITH PLATINUM-BASED CHEMOTHERAPY

Emilija Lazareva, S.V. Petreska, O. Arsovska, V. Klisarovska, V. Krstevska

Department of Gynecologic Oncology, University Clinic of Radiotherapy and Oncology, Skopje, FYR Macedonia

Aims: Patients(pts) with endometrial cancer with nodal involvement represent a small, but important subset of pts. Due to the specific lymphatic pathways nodal involvement often is unpredictable. Extrauterine disease may be limited to the pelvic/paraaortal nodes or it may spread to adjacent organs and structures and peritoneal surfaces. Hysterectomy, removal of the ovaries and collection of pelvic washing for cytology is standard for the management of endometrial cancer. Because distant sites of failure appear to be most common postoperative chemoirradiation is holding promise.

Methods: Between 2007-2008, 163 pts referred to our clinic for postoperative radiotherapy with endometrial cancer, after total abdominal hysterectomy with bilateral salpingoophorectomy. Six of them (3.6%) had positive para-aortic lymph nodes, classified as stage IIIC FIGO staging system. Median age of the pts was 51 (range 50-54). Adjuvant chemotherapy containing Platinum and Doxorubicin or Paclitaxel was given to all pts. Extended-field external-beam radiotherapy was delivered, covering the whole pelvic region (gross disease and the entire common iliac chain) and para-aortic lymph node region, using appropriate 15MV photons beams arrangement. The standard “chimney” field extends from midpubis (or a line 4cm below the most distal vaginal site of disease) to T11/T12 interspace. After delivering a dose of 4500cGy (25x180cGy) to entire target volume, fields were reduced to increase a dose to pelvis to 5040cGy. Additional HDR-brachytherapy was given to all pts.

Results: Complete response was confirmed with clinical, laboratory and CT examinations in 5 pts, while one had partial response and developed lung metastases consequently. Five pts are alive after a follow up of 24 months.

Conclusions: With a short duration of follow-up, we have shown that with combination treatment para-aortic node-positive endometrial cancer can be effectively managed. We believe this outcomes justified the aggressiveness of the combination modality treatment.
BONE MINERAL DENSITY IN PATIENTS WITH ENDOMETRIAL CANCER


Obstetrics and Gynecology, Gachon University Gil Hospital, Incheon, Republic of Korea

Objectives: A variety of neoplasms are related to osteoporosis in the absence of metastasis. We sought to evaluate bone mineral density (BMD) in patients with endometrial cancer.

Methods: We retrospectively analyzed the BMD of the spine and femur using dual-energy X-ray absorptiometry (DEXA) in 31 patients with endometrial cancer and 61 control women. The control group was treated with surgery for benign disease. All patients with endometrial cancer and all control women had experienced menopause. There were no bone metastases in patients with endometrial cancer. We compared age, height, body weight, body mass index (BMI), and BMD of the spine and femur between the endometrial cancer and control groups, and compared BMD between stage I and stage II, III, and IV endometrial cancer patients.

Results: There were no differences in the BMD of the spine or femur in patients with endometrial cancer and those in the control group. There were also no differences in the BMD of the spine or femur in patients with stage I versus stage II, III, or IV endometrial cancer.

Conclusion: Endometrial cancer appeared to have no effects on BMD before treatment. However, to define its detailed effect on BMD, a prospective study with large sample size is needed.
CARCINOMA ENDOMETRIUM IN WOMEN OF 45 YEARS OR YOUNGER IN AGE

Kamlesh Mishra\textsuperscript{1}, A. Desai\textsuperscript{2}, K. Dave\textsuperscript{2}, S. Patel\textsuperscript{2}, M. Mankad\textsuperscript{2}, P. Dave\textsuperscript{2}

\textsuperscript{1}Gynecology Oncology, Dharamshila Cancer and Research Center, Delhi, \textsuperscript{2}Gynecology Oncology, Gujarat Cancer & Research Institute, Ahmedabad, India

**Objective:** Aim of the present study to study clinico-epidemiological and histo-pathological prognostic factors in endometrial carcinoma in women of 45 years and younger in age.

**Material and methods:** A total of 230 patients of EC treated at our institute from 2003 to 2007. Their records were reviewed retrospectively. Patients were divided into two groups; Group A comprised of younger women ( \( \leq 45 \) yrs aged) and Group B of older women ( >45 yrs aged).

**Results:** 13\%(30/230) of total EC women were young of group A. Their clinico- epidemiological factors as per order of frequency were menstrual irregularities(100\%), obesity(43\%) and nulliparity(37\%). Nulliparity was significantly more frequent in younger (A) verses older women (B) (P= 0.0001). Early disease of Stage IA , was significantly more common in younger women (group A Vs B; p value=0.0013). But, safe disease (stage IAg1) was only in 17\% of young women.

No difference was found in stage-wise distribution of disease(p= 0.7351), myometrial invasion (p=0.46), tumor grade( p =0.58) and tumor types(p= 0.75). 17\% of young patients also had pathological ovaries. Disease free survival rate(DFSR) was 100\% in stage I and in IIIA and 66\% in stage II and III after follow up of 6-96 months of follow up . Overall DFSR in young women was 83.3\% after 6-96 months (Mean 32.5 months) of follow up.

**Conclusion:** Young women, especially if have associated nulliparity or menstrual irregularities or obesity, need to be screened for endometrial carcinoma, since not all of them have low risk disease.
FREQUENCY OF DIFFERENT HISTOLOGICAL TYPE OF ENDOMETRIAL CURETTAGE IN WOMEN WITH ABNORMAL UTERINE BLEEDING

Anisodowleh Nankali, N. Jalilian, F. Keshavarzi, T. Fakheri, S. Daeichin

Obstetrics and Gynecology, Maternity Research Center, Kermanshah University of Medical Sciences (KUMS), Kermanshah, Iran

Objectives: The objective of the study was to determine the frequency and type of endometrial abnormalities in women presented with abnormal uterine bleeding (AUB).

Patients and methods: This descriptive retrospective study describes 100 patients with AUB who had undergone endometrial biopsy by Dilation & Curettage for diagnostic purposes at motazedi university hospital for 1 year. These patients were identified by indexing and coding unit of medical record department.

Results: Finding of the study was showed abnormal endometrium in 17% cases (8% simple hyperplasia), 7 % endometrial polyp, 2% invasive SCC). Prolifrative endometrium was the most common finding 29%, menometrorrhagia was the most common pattern of AUB 32%.Among these only 9 cases were less than 35 years old and the others were older than 35 years old. Among 8 patients with hyperplasia just one patient was less than 35 years old and 7 cases were older than 35 years old of this 7 cases 1 patient was menopause .all the patients with SCC were post menopausal.

Conclusion: There is a direct relationship between abnormal uterine histology with increasing age and endometrial sampling is recommended in patients older than 35 years old with AUB.
RECURRENT UTERINE ENDOMETRIAL STROMAL SARCOMA - A CASE REPORT

Geeta Nagasree Neerukonda, N.B. Parvataneni, S.R. Tammineedi

Department of Surgical Oncology, Indo American Cancer Hospital and Research Centre, Hyderabad, India

Background aims and objectives: Endometrial stromal sarcoma (ESS) is a rare disease (0.2% of all uterine Malignancies). We report a case of ESS with recurrence 3 years after surgery and radiotherapy. There is a paucity of information regarding the natural history, optimal management and subsequent tumour behaviour of ESS. Our case report adds to the current literature, and discusses these issues.

Material and methods: 26 year old lady underwent uterine myomectomy which was diagnosed as ESS on histopathological examination (HPE). She subsequently underwent total abdominal hysterectomy with transposition of the ovary followed by radiotherapy. Three years later, she was evaluated for pain in the abdomen and found to have recurrence in the retroperitoneal region anterior to the left kidney. Excision of the mass (8.4 X 7.4X7cms), para aortic lymphnode dissection, nephrectomy, and oophorectomy was done. HPE showed high grade ESS. The patient is on regular follow up and is tumour free after 2 years.

Conclusion:

1. ESS can be mistaken for a uterine leiomyoma.
2. Estrogen stimulation may lead to recurrence and possible enhance the tumour grade.
3. Oophorectomy may be mandatory even in the young age group as well as low grade tumours.
4. Role of radiotherapy to prevent recurrence remains controversial.
5. Survival of high grade ESS after good surgical clearance shows good result.
6. Role of hormonal therapy in the treatment of ESS needs to be studied.
OBSERVATIONS IN EARLY STAGE ENDOMETRIAL CANCERS

Jita Parija, J. Mohapatra, Gynaecologic-Oncolgy Group A.H.Regional Cancer Cuttack, Odisha, India

Gynaecologic Oncology, A.H. Regional Cancer Centre Cuttack, Cuttack, India

Endometrial adeno-carcinoma, an uncommon neoplasm, has become an important factor in the female patient, regardless of its aetiology. Though hysterectomy with bilateral salpingo-oophorectomy is the standard surgery for Stage I endometrial cancers; a primary staging-laparotomy is mandatory in early cases to define risk factors surgico-pathologically and thereby tailor surgery & post-operative adjuvant therapy.A retrospective study of 126 cases of endometrial cancer; was undertaken in IAHRCC(April 1990-April 2007). These cases were analysed according to risk factors, treatment, adjuvant therapy and overall survival was estimated.Majority of women manifested after 50 years and only 2% before 40 years. Approximately 50% were nulliparous. Postmenopausal bleeding was the commonest symptom. Adenocarcinoma was the prominent histopathology, most being well differentiated (G1) tumors. Approximately 91.2% presented with Stage I & II. The common operative procedure was, total abdominal hysterectomy with bilateral salpingo-oophorectomy. Staging laparotomy, was done in 28.6%. Postoperative histopathology revealed myometrial invasion in 92% and deep invasion in 36.5%. Lymph node status in lymphadenectomy patients revealed metastasis in 13.5%. About 42% of cases received, adjuvant therapy. The node-positive recurrence was 23.5% and node-negative recurrence was 10.8%. The overall 3-year survival was 87.9% and recurrence rate was 12.1%. This study concludes that, staging laparotomy is mandatory for early endometrial cancers. Additional surgery like, lymphadenectomy or radical hysterectomy can be done when necessary. Disease-free survival can be improved by giving adjuvant therapy to surgicopathologically defined intermediate & high risk cases.
A RARE METASTASIS OF ENDOMETRIAL CARCINOMA TO BARTHOLIN GLAND - A FIRST CASE REPORT

K Pushpalatha¹, D.N. Sharma², S. Kumar², P. Shukla², R. Kumar², G.K. Rath²

¹Obstetrics and Gynaecology, ²All India Institute of Medical Sciences, New Delhi, India

Background: Bartholin's gland metastasis from endometrial adenocarcinoma is extremely rare.

Case: A 62-year-old woman had undergone laparotomy with extrafascial hysterectomy, bilateral Salpingo-oophorectomy, bilateral pelvic lymphadenectomy, infracolic omentectomy for stage IIIc endometrial carcinoma followed by postoperative adjuvant radiotherapy and 6 cycles of neoadjuvant chemotherapy comprising of Carboplatin and Paclitaxel at an interval of 3 weeks. However, the patient developed a left Bartholin's gland metastasis 6 months postchemotherapy as evident on Positron Emission Tomography - Computed Tomography.

Concurrent Computed Tomography brain done for headache also revealed multiple brain metastasis. The patient is being treated with palliative brachytherapy for the brain metastasis and also chemotherapy with single agent Paclitaxel.

Conclusion: Knowledge of this rare metastatic site will help the interpreting physician make the correct diagnosis and also warrants to search for concurrent distant metastasis for appropriate management.
A STUDY OF PELVIC AND PARA-AORTIC LYMPH NODE INVOLVEMENT IN SURGICALLY STAGED ENDOMETRIAL CARCINOMA

Rekha Raghavendrachar\textsuperscript{1}, J. Crasta\textsuperscript{2}, P. Siddartha\textsuperscript{3}, E. Vallikad\textsuperscript{3}

\textsuperscript{1}Division of Gynaecologic Oncology, St.John's Medical College and Hospital, \textsuperscript{2}Department of Pathology, St. John's Medical College, \textsuperscript{3}Division of Gynaecologic Oncology, St.John's Medical College and Hospital, Bangalore, India

Aims and objectives: To study the influence of depth of myometrial invasion and tumor grade on lymph node involvement in surgically staged endometrioid carcinoma of the endometrium.

Materials and methods: A retrospective study was undertaken, of patients with carcinoma endometrium who were surgically staged between January 1999 and September 2010, under the division of gynecologic oncology. Aggressive variants like papillary serous & clear cell carcinomas, patients, who had no surgical staging, had synchronous second primary or received neo-adjuvant chemotherapy or radiotherapy before surgery were excluded.

Results: Sixty-one patients were included in the study group. Five out of six patients with positive lymph nodes had >50\% myometrial invasion. Lymph node involvement was equally distributed among grades 1, 2 & 3. However none of these were statistically significant. When the study group was divided into two sets namely, those with <50\% and >50\% myometrial invasion, the odds ratio was 10.3, that is 10 times more chance of lymph node metastasis in the latter group.

Conclusions: Deeper myometrial invasion increases the risk of lymph node involvement and hence a poorer prognosis. Although the p value was not significant, the odds ratio reveals that there is an increased risk of lymph node positivity with deeper myometrial invasion. The higher grade of tumor was not found to affect lymph node involvement in this study. Therefore surgical staging needs to be done for all operable cases of carcinoma endometrium to determine the prognosis and further management.
SYNCHRONOUS MALIGNANCIES OF GENITAL TRACT-FIRST CASE REPORT FROM INDIA

Saritha Shamsunder¹, Y.M. Mala¹, N. Khurana², R. Tripathi³

¹Department of Gynecology, ²Department of Pathology, Maulana Azad Medical College & Lok Nayak Hospitals, New Delhi, India

Synchronous malignancies are defined as those which occur simultaneously in different parts of the body. Synchronous malignancies in the genital tract have been reported in the western literature; however, no case has been reported till date from India.

A 50 yr old post-menopausal lady presented with pain abdomen since 2 months; clinical examination revealed a firm right adnexal mass corresponding to 16 wks, the POD & rectal mucosa was free. The CA125 was 478.3 iu/l; imaging was suggestive of a right malignant ovarian tumor, the other viscera were normal. Laparotomy with debulking was carried out with a presumptive diagnosis of stage IIIC Ca Ovary. The histopathology however came as a surprise: apart from a moderately differentiated St IIIC right papillary serous cystadenocarcinoma, she had associated synchronous malignancies in the endometrium (st IA well differentiated endometroid adenocarcinoma), mixed mullerian tumor in the left fallopian tube, and associated left ovarian fibroma. The mixed mullerian tumor was confirmed as a separate tumor on immunohistochemistry.

Exposure to a common etiological agent could a cause for emerging multiple synchronous malignancies.
A PATIENT WITH ENDOMETRIAL CANCER WITH SUPERIOR MESENTERIC ARTERY THROMBOSIS AFTER ADJUVANT CONCURRENT CHEMORADIATION

Eunseop Song, S. Sung, W. Lee
Obstetrics and Gynecology, Inha University Hospital, Incheon, Republic of Korea

A 62 patient came to our clinic under the diagnosis of endometrial cancer. She had vaginal spotting for 5 years and visited a local clinic. Endometrial biopsy done there showed adenocarcinoma, endometrioid type. Grade 1. Preoperative CT suspected endometrial carcinoma without parametrial invasion or cervical invasion, and showed neither evidence of distant metastasis nor lymphadenopathy. CA-125 level was elevated to 364.95 U/mL. A TAH+BSO+PLND+PLND for EMCa IIIC was done as frozen biopsy said there had been a metastasis already. Permanent biopsy said endometrioid endometrial cancer grade 1, and the size of the tumor is 4.5 X 3.5 cm, and the cancer had metastasized to 13 out of 42 regional lymph nodes including paraaortic LN. Concurrent chemoradiation therapy (CCRT) was done using Doxorubicin and Cisplatin for chemotherapy for 2 times, and pelvis radiation using 10MV energy with total dose 3240 cGy, daily tumor dose 180 cGy, 18 fractions. 2 days after CCRT she was complaining of abdominal pain. CT showed small bowel ischemia with superior mesenteric artery thrombosis. Emergency operation was done for nearly total small bowel resection. Even though intensive care, she died after 1 year.
EARLY DETECTION OF ENDOMETRIAL PATHOLOGY IN POSTMENOPAUSAL WOMEN USING TRANSVAGINAL ULTRASONOGRAPHY

Emilija Trajkovska1, E. Dzikova2, G. Dimitrov3, I. Andonova3,4

1PZU. Dr. Emilija Trajkovska, 2High Risk Pregnancy, 3Gynecologic Oncology, University Clinic for Gynecology and Obstetrics, 4Special Private Hospital for Gynecology and Obstetrics ‘Sv.Lazar’, Skopje, FYR Macedonia

Background and aims: To investigate the worth of transvaginal ultrasound in early detection of endometrial pathology.

Methods: 94 postmenopausal women were examined. From them 27 with uterine bleeding and normal endometrial ultrasound image; 42, only with pathologic ultrasound image and 26 with both pathologic findings. As pathologic endometrial ultrasound images were considered the endometrial thickness above 4 mm, with irregular structure, polyps and fluid in the uterine cavity. All patients underwent fractioned endometrial curetage followed by histopathological examination of the taken material.

Results: Endometrial cancer was found in 2 cases in the first group, 1 in the second and 5 in the third group. The cancer was most oftenly recognized and proved in endometrial hyperplasia with irregular non-homogenous endometrial structure (19%), and sporadically found in cases with uterine cavity fluid (3%).

Conclusions: The transvaginal ultrasound is a valuable method in early detection of endometrial pathology in postmenopausal women and can serve as a screening method in selecting patients for invasive diagnostic procedures.
A POSSIBLE MECHANISM OF THE SYNERGISTIC EFFECT BETWEEN METFORMIN AND PROGESTERONE ON ENDOMETRIAL CANCER

Yan Zhang

Peking University First Hospital, Beijing, China

A recent case report suggests that combination therapy of metformin and oral contraceptives can reverse progesterone-resistant atypical endometrial hyperplasia, but the mechanism is not clear. Obesity and diabetes are strongly risk factors of endometrial cancer. Our goals are to evaluate the combinational effect of metformin and medroxyprogesterone acetate (MPA) on endometrial cancer and explore the possible mechanisms of metformin's antitumor function in vitro. Cell proliferation assays were performed by BrdU. Cell apoptosis analyses were assessed by TUNEL. Real-time PCR and Western blot were performed to determine the related mRNA and protein levels respectively. We found that both metformin (1,10µM) and MPA (1µM) inhibited proliferation in two cell lines, and the peak synergy in two cell lines occurs at 10µM metformin combined with 1µM MPA concentration (CI=0.20448 for Ishikawa, CI=0.12801 for HEC-1B). Metformin (10µM) markedly attenuated the promotion of proliferation induced by IGF-II (10ng/ml), induced apoptosis and sharply up-regulated progesterone A/B mRNA and protein expression which were down-regulated by IGF-II in two cell lines. In parallel, IGF-II increased phosphorylation of Akt and p70S6K, but metformin increased AMPK phosphorylation and decreased p70S6K phosphorylation, moreover, metformin could reduce the phosphorylation of p70S6K induced by IGF-II. This study demonstrated that the combination of metformin and MPA synergistically enhanced antiproliferation effect in endometrial cancer cell lines, a possible mechanism of which was metformin increasing progesterone receptor expression. Metformin's anti-proliferation effect and synergy with MPA were partially mediated via activation of AMPK and subsequent inhibition of the mTOR pathway, for AMPK inhibitor can reverse these effects.
VULVAR CANCER METASTATIC TO THE KIDNEY: A RARE METASTATIC PATTERN
Anita Agrawal1,2,3, C. Giede2,4,5
1 Obstetrics and Gynecology, University of Saskatchewan, 2 Royal University Hospital, Saskatoon, 3 Saskatchewan Cancer Agency, 4 Obstetrics and Gynecology, University of Saskatchewan, Saskatoon, 5 Saskatchewan Cancer Agency, Saskatoon, SK, Canada

Objective: To present the rare case

Introduction: In cases of recurrent vulvar carcinoma distant metastasis to bones, breast, and brain is only rarely reported. Metastasis to kidneys from vulvar carcinoma is exceptionally rare with no reported cases in the literature.

Methods: This is a case report.

Results: We report a case of 68 year old women who was treated in September 2008 with radical vulvectomy, distal ureterectomy, and bilateral inguinofemoral lymphadenectomy for FIGO stage IVA (pT3 pN3, M0 G2) moderately differentiated squamous cell vulvar carcinoma. Due to a positive bilateral lymph node status, close vaginal and urethral margin, she received adjuvant pelvic and vulvar radiation (4500 cGy).

The patient remained clinically in remission until October 2010, when presented with flank pain. CT scan of abdomen reported a 5.5/4.5/4.5 cm tumor in the left kidney and appearance was suggestive of renal cell carcinoma (Fig 1). A left radical nephrectomy including paraaortic lymph node dissection was performed in November 2010. The histopathology and of resected renal tumor and paraaortic lymph nodes gave evidence of a metastasis of the known vulvar carcinoma.

Conclusion: Renal metastasis should be considered in differential diagnosis of left flank pain in women with a past history of vulvar carcinoma. To the best of our knowledge, this is the first reported case of vulvar carcinoma which developed renal metastasis.
IMPACT OF CENTRALISATION OF CARE ON THE MANAGEMENT OF VULVAL CANCER PATIENTS TREATED AT A SINGLE INSTITUTION IN THE UK

Vrunda Karanjgaokar¹, D. Murphy², C.H. Mann²

¹Dept. of Obstetrics & Gynaecology, Worthing Hospital, Worthing, ²Department of Gynaecological Oncology, Royal Wolverhampton Hospitals NHS Trust, Wolverhampton, UK

Introduction: Vulval cancer is rare and has an incidence of 1.7/100000 women in the UK; it is a disease of the elderly with more than half of the patients developing the disease in their late 70s. Management of vulval cancer has evolved over the last forty years as clinicians’ understanding of the disease and related complications associated with its treatment has improved. There has been a move towards centralisation of the management of vulval cancer since 1999 in the UK.

Aim: Aim of the audit was to have an overview of the management of vulval cancer and to assess the impact of the organisational changes on outcomes and compare results with those previously published in 1985 from the institution.

Material and methods: A retrospective audit of 90 cases of vulval cancer treated at the Royal Wolverhampton Hospitals NHS Trust between January 1999 - December 2008 was carried out. The information collected related to patient demographics, type of surgical intervention, complication rates, disease recurrence rates and survival analysis.

Results: There was reduction in postoperative complications, the hospital stay, recurrences death after treatment post centralisation of care. However the five-year survival was marginally less in the cases managed surgically when compared to outcomes of cases managed in the pre-centralisation period.

Conclusion: In our experience, centralisation of care has led to reduction in the peri-operative morbidity. However advances in the management vulval cancer and wound care may have also played a pivotal role in the improved outcomes.
WHY IS THERE A GEOGRAPHIC VARIATION IN VULVAL CANCER?

Allan Bruce McLean1,2

1Gynaecology, Royal Free Campus, 2Gynaecology, University College, London, London, UK

Vulval cancer is described as rare, accounting for only 6% of gynaecological cancers and < 1% of all cancers in the United Kingdom(UK). However, the incidence has increased by 25% over the last 25 years. In 2007 there were 1120 new cases with an age standardised incidence (ASI) of 2.4/100,000 population (data from Cancer Research,UK). This is similar to the incidence elsewhere in Europe, North and South America, and Oceania, and contrasts with ASIs of 0.26 for Eastern, 0.46 for Southern, 0.55 for South Eastern and 0.61 for Western Asia (Sankaranarayanan & Ferly, 2006).

In the UK only one third of vulval cancers are associated with vulval intraepithelial neoplasia and HPV, while two thirds arise in a background of lichen sclerosus (LS). While I was President of the International Society for the Study of Vulvovaginal Disease I gathered data in Egypt, Arabia, Singapore, Malaysia, Thailand and Hong Kong to identify that LS is diagnosed infrequently in these countries.

LS is an inflammatory dermatosis associated with increasing age, gender and hormones, family (genetic), autoimmunity and probably environmental factors such as personal hygiene, diet, exposure to sunlight (vitamin D) and perhaps infection. The factors which permit 3-5% of these women to develop cancer also remain elusive.

The author suggests that data on vulval cancer and LS in different States of India may provide greater understanding of why there are geographic variations, and ultimately reverse the trends in incidence of vulval cancer.
SENTINEL LYMPH NODE DETECTION IN VULVAL CARCINOMA: EXPERIENCE OF A CANCER CENTRE IN THE UNITED KINGDOM

Gautam Mehra1,2, A.J. Papadopoulos1, S.K. Raju2, M. Coutts3, S. Adamson1, S.A. Montalto1, J. Donaldson4, O. Devaja7

1Gynaecological Oncology, Maidstone Hospital, Kent Oncology Centre, Maidstone, 2Gynaecological Oncology, Guy’s & St Thomas’ Cancer Centre, London, 3Histopathology, 4Nuclear Medicine, Maidstone Hospital, Kent Oncology Centre, Maidstone, UK

Aims: To determine the accuracy of sentinel lymph-node (SLN) detection in vulval carcinoma and to report the reliability and safety of this procedure.

Methods: Over a period of 6 years, we selected women undergoing surgery for vulval carcinoma. All women had a preoperative biopsy confirming the depth of invasion >1mm. SLN detection was performed using the combined-method (Tc-99m and methylene-blue-dye). The standard management included complete inguinofemoral lymphadenectomy (ILND). If the inguinofemoral lymph-nodes were found grossly enlarged then they were debulked and the women treated with radiotherapy with or without chemotherapy. A selected group of women had a SLN dissection alone. The SLNs were ultrastaged when they were negative on routine H&E examination.

Results: Amongst 60 women recruited, SLN was detected in 59 women (98.3%). Blue-dye did not detect a SLN in 3 women resulting in a 93.3% detection rate. The median SLN count was 2 nodes (range 1-9). Out of 60 women, 41 women had ILND, 4 had debulking of enlarged inguinofemoral nodes and 15 had the SLN only removed. The non-sentinel lymph-node count was 9 nodes (range 3-17). There were no false-negative SLNs. Twenty-one women (35%) had positive nodes on final histology. Ultrastaging increased detection of metastases in 6.9% nodes relative to routine H&E examination and upstaged 12% women. The median follow-up was 24 months (range 2-66).

Conclusions: SLN detection is safe and accurate in assessing lymph-node status in women with vulval cancer undergoing staging. The combined method for SLN detection has the best detection rate. Routine ultrastaging of negative SLN improves the detection of nodal metastases.

Copyright 2011 IGCS
VULVAL MELANOMA: ROLE OF CONSERVATIVE SURGERY IN UNIFOCAL DISEASE

Kamlesh Mishra\textsuperscript{1}, N. Hacker\textsuperscript{2}, G. Robertson\textsuperscript{3}, V. Hienzelmann\textsuperscript{4}

\textsuperscript{1}Gynecology Oncology, Dharamshila Cancer and Research Center, Delhi, India, \textsuperscript{2}Department of Gynecology Oncology, Royal Hospital for Women, \textsuperscript{3}Gynecology Oncology, RHW, \textsuperscript{4}Gynecology Oncology, RWH, Sydney, NSW, Australia

Introduction: Vulvar melanomas (VM) constitutes 8-10% of all neoplasms of Vulva. Conservative vulvar surgeries cause less psychosexual morbidity; without compromising the overall survival in squamous cell carcinoma of vulva. The aim of present study was to analyse, the experience of management of unifocal VM at Royal Hospital of Women at Sydney, Australia.

Material and methods: A total of 18 cases of VM, were treated at RHW from 1990 to 2004 (15 yrs). 14 were primary and 4 were metastatic. Details of primary VM were analysed retrospectively.

Results: Median age at presentation of primary VM, was 68.5yrs. Commonest presenting feature was vulvar pruritis and mass (29%), followed by bleeding, irritation and altered pigmentation. Mean symptom duration was 25.6 wks in unifocal and 40wks and multifocal disease. Conservative vulvar surgeries with unilateral or bilateral groin node dissection were performed in 90% of unifocal VM; in form of local radical excision (20%) and left or right hemi-vulvectomy or anterior vulvectomy (70%). Groin nodes were dissected in all except 2 cases. Mean number of groin nodes removed were 10.7. None had positive lymph nodes. The mean overall survival was 50.7 mths (13 to 120 mths; with 95% CI : 24.7359 to 76.6641). The mean disease free survival was 48.2mths (5 to 120 mths; with 95% CI : 20.5914 to 75.8086). Kaplan Meir actuarial overall and disease free survival at 5 yr, was 47.23% and 46.15% respectively.

Conclusion: Conservative surgical technique seems justified in unifocal VM. Further multicentric trials may establish suitable guidelines for its management.
PRIMARY MALIGNANT MELANOMA OF VAGINA - A CASE REPORT

Rema Prabhakaran Nair
Division of Gynecology Oncology, Regional Cancer Centre, Thiruvananthapuram, India

Background: Primary vaginal melanoma is a rare and highly malignant disease. It constitutes less than 0.3% of all melanomas and less than 3% of all malignant vaginal tumours. It presents usually in late stages and the prognosis is very poor, five year survival rates ranging from 5 - 25%. Surgery is advocated as the curative treatment with procedures ranging from local excision to radical extirpation of vagina.

Case report: A case of primary malignant melanoma located in the posterior lower third of the vagina infiltrating rectum was treated by surgery and postoperative radiotherapy. The tumor was infiltrating rectum upto the anal sphincter and posterior exenteration was done to achieve tumor-free surgical margins. One year after treatment patient is disease free.

Discussion: Vaginal melanoma is associated with a poor clinical outcome for the majority of patients. Because of the rich lymphatic and vascular supply of the vagina, both local and distant spread is common in this biologically aggressive malignancy. Although the majority of patients with vaginal melanoma will die of their disease, surgical therapy remains the only chance for long-term survival and is associated with increased overall survival. The goal of operative intervention should be complete resection of gross disease.
WHAT TYPE OF FOLLOW-UP SHOULD BE DONE FOR WOMEN AFTER HYSTERECTOMY FOR CIN?

Borek Sehnal¹, D. Driak¹, P. Holy¹, E. Kmonickova², H. Koutnikova³, M. Dvorska¹

¹Department of Obstetrics and Gynaecology, 1st Medical Faculty of Charles University Teaching Hospital Na Bulovce, ²Department of Radiotherapeutic Oncology 1st Medical Faculty of Charles University Teaching Hospital Na Bulovce, ³Department of Pathology, Hospital Na Bulovce, Prague, Czech Republic

Objective: To give an overview of current knowledge about the incidence of vaginal cancer in women following hysterectomy for CIN and a basic presentation of two cases reflecting the frequency of gynecological preventive examinations in these patients.

Design: Case study and critical overview of published literature

Materials and methods: The etiological pathogenesis of carcinoma of the vagina falls under the theory of LGTNS—lower genital tract neoplastic syndrome. The uterine cervix, vagina, vulva, and anus all have the same risk factors. CIN is a condition also posing significant risk for carcinoma of a different region of the lower genital tract. According to various estimates, 3-7% of the cases of VaIN progress to carcinoma of the vagina. About 75% of patients with VaIN have early or established CIN or VIN. Last year in our clinic, we reviewed the cases of two patients with carcinoma of the vagina, who had been operated at different hospitals for CIN. Both patients were treated with radiotherapy and now are in remission.

Conclusion: In agreement with the theory of LGTNS, patients with a history of hysterectomy performed for severe cervical intraepithelial neoplasia have a significant higher risk of developing precancerous or squamous cell carcinoma of the lower genital tract. For this reason, we recommend preventive gynecological examinations in the same interval as indicated by precancerous VIN and VaIN, in other words, at intervals of 3-6 months.
TREATMENT OUTCOME OF PATIENTS WITH CARCINOMA OF VULVA: EXPERIENCE FROM A TERTIARY CANCER CENTER OF INDIA

Daya Nand Sharma, G. Rath, S. Kumar, N. Bhatla, P. Julka, P. Sahay
All India Institute of Medical Sciences, New Delhi, India

Purpose: The aim of our retrospective study was to analyze and report the clinical outcome of patients with vulvar carcinoma (VC) treated at our center.

Materials and methods: We retrieved the information regarding patient's clinical details, treatment given, survival and complications from the case records of all VC patients who were treated at our center during the year 1998-2005. Overall survival (OS) was determined with respect to age, histopathological grade, stage of disease, treatment group, and pathological lymph node status etc.

Results: A total of 60 case records were retrieved for this retrospective analysis. Age ranged from 24 to 92 years (median 63 years). FIGO stage distribution was: stage I, 2; stage II, 17; stage III, 31; stage IV, 9; and unknown stage, 1 patient. Thirty three patients underwent surgery (wide local excision 3, radical vulvectomy 30). Eleven patients received postoperative radiation therapy (PORT), 12 palliative radiation therapy (RT) and 15 underwent definitive RT (5 of them received concurrent chemotherapy). Median follow period up was 23 months (range 2-144 months). The 5-year OS for all stages was 41%. FIGO stage and pathological node positivity were found statistically significant prognostic factors for survival.

Conclusion: Despite majority of patients presenting in advanced stage, the 5-year OS of 41% in our series reflects the decent therapeutic outcome. The results have shown FIGO stage and pathological node positivity as significant prognostic factors for survival. The use of preoperative chemotherapy/RT needs to be studied in our setup.