Surgical Treatment of Vaginal Apex Prolapse

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Question 1:
What are the promoting factors for the development of prolapse associated with recreational and occupational activities? Are there any modifications women can make in these areas to decrease their risk of pelvic organ prolapse (POP)?

Response from Drs. Walters and Ridgeway:
Promoting factors for POP include obesity, smoking, pulmonary disease, constipation and chronic straining, and recreational or occupational activities. Obesity is the most proven factor that promotes POP, with lesser evidence supporting smoking and chronic straining with constipation. These three factors have obvious interventions that could improve the conditions and potentially decrease the future risk of POP. Regarding recreational or occupational activities, there is weak evidence supporting the concept that women who perform heavy lifting as part of their daily occupation are at more risk for POP. Other recreational activities have not really been studied, but there are anecdotal reports of activities that involve unusually strong straining, such as weight lifting, that are associated with POP. Other than modifying the offending activity, women can do daily pelvic muscle exercises and even learn to do a pelvic squeeze at the time of various activities such as lifting or coughing. This can offset some of the downward pressure on the pelvic floor and may preserve it from future development of POP.

Question 2:
What percentage of anterior wall prolapse is associated with apical prolapse based on magnetic resonance imaging (MRI) studies? Do you suggest that all women undergoing anterior repair have an apical procedure as well? Do you recommend that all women with anterior vaginal wall prolapse undergo dynamic MRI to evaluate for apical prolapse?

Response from Drs. Walters and Ridgeway:
Most of the data regarding the interaction of anterior vaginal wall prolapse and apical prolapse are based on MRI studies directed by Dr. John DeLancey at the University of Michigan. They have presented data indicating that about half of anterior wall descent can be explained by the amount of apical descent. A follow-up study by Hsu et al showed that 77% of anterior vaginal wall descent can be explained by a combination of apical descent and mid-vaginal anterior vaginal wall length. Because of these studies and other studies that suggest poor surgical outcomes with simple anterior colporrhaphy for anterior vaginal wall prolapse, when there is even minor prolapse of the vaginal apex or uterus on physical examination we will try to add an apical procedure to re-support the proximal portion of the anterior vaginal wall.
Although dynamic MRI has been a very valuable research tool, we do not recommend obtaining this preoperatively before prolapse surgery because it doesn’t change the treatment plan. Virtually all abdominal sacral colpopexies now include an anterior vaginal mesh arm and many of the transvaginal prolapse procedures commonly include reattachment of the anterior wall to the apical support stitches.

Question 3:

What is your recommended method of testing for stress urinary incontinence (SUI) in patients with apical prolapse?

Response from Drs. Walters and Ridgeway:

We usually perform multichannel urodynamic testing or office testing with the prolapse reduced either digitally or by a nurse with a vaginal pack. This will sometimes uncover patients who are clinically continent (with their prolapse protruding) but have occult stress urinary incontinence that is being masked by bladder neck obstruction from the severe prolapse. These patients are at higher risk for developing post-operative stress incontinence if an anti-incontinence procedure is not also done at the time of their prolapse repair.

Simple office testing is probably equally as effective as urodynamic testing and is more cost effective. To perform this test, the gynecologist should start the examination with the patient having a comfortably full bladder. The prolapse is reduced and held up either digitally or with a half-speculum or large cotton swabs. The patient is asked to cough and perform a Valsalva maneuver in the semi-sitting position. If she still does not leak then she can be re-examined in the standing position, again with strong cough. After this examination, she should attempt to void normally and then a post-void residual urine volume is obtained either with a straight catheter or an ultrasonogram. Finally, the urine should be checked to rule-out infection. A negative urinalysis, low post-void residual urine volume, and positive cough stress test with the prolapse reduced is enough evidence to add an anti-incontinence procedure at the time of her prolapse repair. If she does not leak urine with her prolapse reduced, then an anti-incontinence procedure is not recommended at this time. Even with a negative work-up, de novo SUI can develop postoperatively, and we discuss this with the patient during the informed consent process.

Question 4:

What formulation, dose, and duration of vaginal estrogen do you recommend in postmenopausal patients preoperatively? What vaginal estrogen regimen do you recommend for postoperative use for the prevention of dyspareunia and vaginal stenosis in patients undergoing vaginal apical repairs?

Response from Drs. Walters and Ridgeway:

For eligible patients who are willing to use some vaginal estrogen preoperatively we simply give standard doses of vaginal estrogen cream or suppositories (daily for 2 weeks and then every other day) several months before surgery if possible. After the surgery is completed, we usually start the vaginal estrogen 2 to 4 weeks after surgery or at the postoperative visit at 4 to 6 weeks. The vaginal estrogen probably helps with postoperative healing and dyspareunia that is common for a few months after vaginal prolapse repairs. If the surgery was done properly then vaginal stenosis should not be a problem. However, if the vagina is too tight, then vaginal estrogen with the use of dilators can be an effective early treatment of this symptom.

Question 5:

What percentage of mesh erosion cases that occur after sacral colpopexy can be managed conservatively?
Response from Drs. Walters and Ridgeway:

Conservative management of mesh erosions includes observation and topical estrogen therapy. If an erosion is discovered incidentally during a follow-up examination and the patient is asymptomatic (no bleeding, pain, or vaginal discharge) and not sexually active, observation may be appropriate if the mesh erosion is small (less than 1 cm). If a patient is symptomatic with bleeding, vaginal discharge, pain, or dyspareunia, or the erosion is large, treatment is recommended. In almost all cases, we start with topical estrogen. After daily use for 2–4 weeks, the patient is re-examined. We monitor the patient until resolution of the erosion or a plateau in improvement. Once a plateau is reached, we offer mesh excision of the eroded area and closure of the vaginal epithelium. Despite conservative management, the great majority of women with symptomatic mesh erosions eventually require surgical excision.

Question 6:

In your tips for minimally invasive sacral colpopexy you recommend performing a supracervical hysterectomy to help decrease the risk of vaginal mesh erosion. Do you recommend supracervical hysterectomy to decrease the risk of mesh erosion using sacral colpopexy by laparotomy as well?

Response from Drs. Walters and Ridgeway:

Though there aren’t great data, supracervical hysterectomy likely decreases apical mesh erosion independent of surgical approach. The cervix provides a thick tissue barrier where the highest mesh burden exists. Furthermore, if total hysterectomy is required, the incision line at the apex additionally predisposes the patient to mesh erosion. Of course, the patient must be a good candidate for supracervical hysterectomy and be counseled of the risks of abnormal bleeding and cancer. In patients who are not candidates for supracervical hysterectomy, total hysterectomy is performed. In these cases, electrocautery is used minimally and the vaginal cuff is closed using a two-layer closure.

Question 7:

What specifically is identified in defecography that can aid in the diagnosis and treatment of pelvic organ prolapse and defecation disorders?

Response from Drs. Walters and Ridgeway:

Defecography is an imaging study that provides information about anatomic and functional changes of the anorectum. Defecography is most helpful when looking for potential anatomic causes of symptoms (enterocele, intussusceptions, rectal prolapse), though it is operator-dependent and has poor reliability. In patients with severe defecatory dysfunction, defecography may be helpful in understanding baseline anatomy and function, deciding if a colorectal surgery consultation could be helpful, and guiding surgical treatment. For example, if the patient has mild to moderate POP and severe defecatory dysfunction, and defecography reveals a large enterocele in the rectovaginal space, a procedure that obliterates this space would usually be appropriate.

Question 8:

You recommend treatment of SUI at the time of prolapse repair. What type of treatment do you recommend in conjunction with sacral colpopexy? Specifically, in regards to the use of midurethral slings, does the use of two mesh products at one time increase the risk of vaginal mesh erosion, pelvic pain, or dyspareunia?
Response from Drs. Walters and Ridgeway:

For women who have either overt SUI or occult SUI on testing we do recommend some type of anti-incontinence procedure when a sacral colpopexy is being done. We do not do anti-incontinence procedures in continent women who have negative cough stress testing with the prolapse reduced, although we know that some of them will still develop SUI in the postoperative period. What type of anti-incontinence procedure to use at the time of sacral colpopexy depends a little on the actual surgical access used for the sacral colpopexy. A Burch colposuspension, retropubic synthetic midurethral sling, or transobturator sling all can be valuable and effective treatments in selected patients. We only perform a Burch procedure on certain sacral colpopexies in which we are employing a laparotomy incision and possibly in someone who has had problems with midurethral slings in the past. Most of the patients undergo either a retropubic or transobturator midurethral sling after a laparoscopy or robotic-assisted sacral colpopexy. Which sling to use is mostly the preference of the surgeon. The few studies available show that retropubic midurethral sling is slightly more effective for recurrent incontinence and intrinsic sphincter deficiency but probably has a little more voiding dysfunction and urgency postoperatively. We usually perform a retropubic midurethral sling in eligible patients having a sacral colpopexy because we have a suspicion that it might work a little bit better in treating SUI when an anterior mesh is being used.

The use of two mesh products at the same time may slightly increase the risk of erosion, pain, and dyspareunia because each mesh procedure has a small and variable association with these complications. The risk is likely the sum of each product’s risks as opposed to a synergistic effect.

References:
