Frequency and Disposition of Ovarian Abnormalities Followed With Serial Transvaginal Ultrasonography

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1. The authors describe following a large cohort of women over a 25-year period with serial transvaginal ultrasound imaging; serial ultrasonograms documented resolution of greater than 80% of masses. Compare this screening program to the current screening program at your institution. How are they similar? How do they differ?

2. How many screening ultrasonograms had to be performed to detect a single malignancy? What would the cost implications be of a nationwide screening program as described for the state of Kentucky?

3. The authors found that solid ovarian masses or those with solid components were likely to resolve sooner than their cystic counterparts. Given the differential diagnosis for solid and cystic tumors, discuss how the pathophysiology of these lesions may lead to differing resolution rates.

4. Among postmenopausal women, serum tumor markers are often used to help differentiate malignant from benign tumors. In the current study, fewer than 4% of screening group had tumor markers drawn and only 15–17% of the patients with an abnormal transvaginal ultrasonogram had tumor markers drawn. What do you estimate would be the effect of the addition of tumor markers to the positive and negative predictive values reported in this study of serial transvaginal ultrasonography?

5. Ovarian cancer occurs in 1 in 70 women. Screening for rare diseases is thought to be problematic even with very high positive and negative predictive values, because of an increase in false positives. Discuss the formulas for positive and negative predictive values, number needed to treat, and incidence and prevalence. How do these values interrelate?

6. Discuss the implications of including borderline tumors as malignancies in the present investigation. What was the effect on the positive predictive value? Given the differences in epithelial versus borderline tumors, discuss the appropriateness of their inclusion in the true positive group.

7. The screening guidelines changed over the course of the study, yet results were presented in aggregate as well as separately for each time period. Since the guidelines varied over time, do you think that this may have biased the results?

8. Given the findings of this study, how would you counsel a woman over the age of 50 years who presented with a primarily solid mass? A 25-year-old woman with a familial history of ovarian malignancy?

9. You tell a 50-year-old patient with a solid ovarian mass that she has a large chance of resolution of the mass with time and that you recommend following the mass with serial transvaginal ultrasonography. She has read on the Internet that these masses may result in cancer, so she wishes to have the mass removed as soon as possible. How would this alter your counseling? Would you change your treatment plan? What are the ethical tenets that would be of importance in the counseling?