Prevalence, size and duration of ovarian abnormalities detected on transvaginal sonography

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Objective: Ultrasound is commonly used to detect and categorize ovarian abnormalities. The objective of this study was to evaluate synchronous and asynchronous ovarian abnormalities to determine cyst prevalence, size, and duration. This information can help determine the proper timing of surgical intervention.

Methods: Women were selected from 27,270 participants enrolled in annual ovarian screening from January, 1987 through November, 2007. Screening was performed using transvaginal sonography and ovarian abnormalities were characterized in terms of size, morphology and duration. Proportions were compared using χ² statistics or Fisher's exact test. Means were compared using t statistics. Multiple comparisons in one-factor ANOVA were performed using the least significant difference method.

Results: The overall prevalence of unilateral and bilateral ovarian abnormalities was 18.7%, and was higher in premenopausal women (30.4%) than in postmenopausal women (16.1%). Mean volumes for unilateral ovarian abnormalities were 5.31 mL (± 1.02) for simple cysts, 7.53 mL (± 1.02) for septated cysts, 9.32 mL (± 1.03) for cysts with solid areas, and 12.85 mL (± 1.11) for solid-appearing tumors. The mean volumes for unilateral ovarian abnormalities were larger than those for bilateral cysts. Importantly, more than 97% of unilateral and bilateral ovarian abnormalities resolved over a median of 7–12 months. Using means as well as survival curves, unilateral simple cysts persisted longer than bilateral simple cysts. The duration of ovarian ultrasound abnormalities was: simple cysts > cysts with septations > cysts with solid areas > solid structures. Interestingly, cysts with solid areas and solid-appearing tumors resolved the fastest, and larger unilateral ovarian cysts (>15 mL) resolved more quickly than smaller cysts.

Conclusions: Ovarian abnormalities are surprisingly prevalent in women, however, most ovarian abnormalities discovered on transvaginal sonography will resolve within several months. In the absence of persistent growth or worsening tumor complexity, short-term surveillance appears to be a reasonable alternative to surgery.