Risk of malignancy in sonographically confirmed septated cystic ovarian tumors

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Objective: The purpose of this study was to determine the risk of malignancy in sonographically confirmed complex cystic ovarian tumors with septal morphology.

Methods: Complex cystic ovarian tumors with septations were identified in patients undergoing ultrasound screening (U/S) from January, 1987 to July, 2009. All sonograms were reviewed, and septal width, tumor diameter, and patient demographics were recorded. Tumors containing solid areas or papillary projections from the cyst wall were excluded from further investigation. Patients were followed at four to six-month intervals with ultrasound examinations, and the frequency of spontaneous tumor resolution was noted. Selected patients with persisting septated ovarian tumors were operated on, and the histopathology of these tumors was reviewed and recorded. Long-term surveillance of patients with these tumors was undertaken to document any future occurrence of ovarian malignancy.

Results: One thousand three hundred nineteen (4.4%) of 29,829 women screened were identified on ultrasound as having complex cystic ovarian tumors with septations but without solid areas or papillary projections from the cyst wall. The mean age of these patients was 56.9 years (range: 17–95), and 71% were postmenopausal. Over the period of observation, the 1,319 patients had a total of 2,870 septated cystic ovarian tumors. Of these, 2,288 tumors (79.7%) had a septal width <2 mm and 582 (20.3%) had a septal width ≥2 mm; 2,286 tumors (79.6%) were <5 cm in diameter and 584 (20.4%) were ≥5 cm in diameter. The duration of follow-up varied from four to 252 months (mean: 77, median: 65). One thousand one hundred fourteen septated cystic tumors (38.8%) resolved spontaneously (mean and median durations to resolution: 12 and 13 months, respectively), and 1,756 (61.2%) tumors persisted. One hundred twenty-eight patients underwent surgical tumor removal, all within three months of U/S. The most common histopathology was serous cystadenoma (75), mucinous cystadenoma (13), and endometrioma (10). Two patients had ovarian tumors of borderline malignancy (one stage IA, one stage IB). There were no cases of ovarian cancer. With continued follow-up, one patient developed papillary morphology on U/S and epithelial ovarian cancer in the contralateral ovary 3.2 years after detection of a septated ovarian cyst. The remaining patients are all free of ovarian neoplasia.

Conclusions: The risk of malignancy in septated cystic ovarian tumors without solid areas or papillary projections is extremely low, and patients with these tumors can be followed sonographically without surgery.