

Extended Abstract

## Ultrasound evaluation of pelvic masses seen within a university gynecologic oncology clinic: does the scan location matter?

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**Keywords:** Pelvic mass, ovarian cancer, ultrasound, referral

### Objective

To quantify variations in the reporting of ultrasound characteristics of adnexal masses between local ultrasound centers and a tertiary care center for women referred to gynecologic oncology for evaluation of a pelvic mass. This study also sought to evaluate whether a gynecologic oncologist's impression regarding the suspicion for malignancy differed based upon the information provided in the local ultrasound report as compared to the tertiary care center ultrasound report.

### Methods

This was an IRB-approved, retrospective review of patients referred to a tertiary care gynecologic oncology

clinic for evaluation of a pelvic mass between January 2012 and July 2014. Patients who had a pelvic ultrasound prior to referral who had undergone repeat ultrasound at the tertiary care center within 6 months were included. The presence or absence of ultrasound characteristics known to be associated with malignancy was extracted from both the local and the tertiary care center ultrasound report, and McNemar's test was used to determine if rates of documentation for each variable were different. A board-certified gynecologic oncologist blinded to clinical data and patient outcome independently reviewed both the local ultrasound center and tertiary care center ultrasound reports and, based solely upon the information contained within the report, classified the mass as likely

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Please cite this abstract as: O'Shea AS, Stephan JM, Mott SL, Goodheart MJ. Ultrasound evaluation of pelvic masses seen within a university gynecologic oncology clinic: does the scan location matter? *Proc Obstet Gynecol*. 2016;6(1):Article 8 [ 2 p.]. Available from: <http://ir.uiowa.edu/pog/> Free full text article.

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benign, likely malignant, or inconclusive with the need for additional information. These impressions were compared to final pathology to calculate metrics associated with the prediction accuracy of ultrasound reports from each location.

## **Results**

126 patients met inclusion criteria. Tertiary care center ultrasounds (TCC) had a significantly higher rate of documentation of ovarian measurements than local ultrasounds (TCC 83% vs local 48%,  $p<0.01$ ), were more likely to include presence or absence of cul-de-sac fluid (TCC 100% vs local 64%,  $p<0.01$ ), and were more likely to offer a differential diagnosis than local medical institutions (TCC 72% vs local 44%,  $p<0.01$ ). Reporting of other characteristics was not significantly different. After gynecologic

oncologist review of the local ultrasound report, more information was needed to form a clinical opinion in 56% of cases. Comparison of diagnostic impression (likely benign or likely malignant) of local ultrasound and tertiary care center ultrasound to final pathology yielded the following results (local vs TCC): sensitivity (90% vs 94%), specificity (35% vs 60%), positive predictive value (PPV) (38% vs 45%), negative predictive value (NPV) (89% vs 97%).

## **Conclusion**

Tertiary care center ultrasound reports provided an increased sensitivity, specificity, PPV, and NPV over local ultrasound reports. For women referred to a tertiary care center for evaluation of a pelvic mass, consideration should be given to performing a repeat pelvic ultrasound during their evaluation.