Ultrasound of Indeterminate Adnexal Cysts: Incidence of Ovarian Cancer

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Disclosures

No disclosures to report.
Adnexal lesions in women are a relatively common occurrence on US.

SRU and the IOTA group:
- Approaches on their imaging characteristics
- Majority of adnexal lesions can be characterized
Introduction: Background

- Incidence of US indeterminate Lesions
  - Based on a prospective study in 1,938 women**
  - 77% benign or malignant
  - 23% indeterminate**

- Lack of data: Rate of malignancy in US indeterminate lesions

The goal of our research is to determine the incidence of ovarian cancer in sonographically indeterminate adnexal lesions.
Methods: Subjects

- IRB approved, HIPAA compliant, retrospective review
- Population
  - General low-risk outpatients
  - Multi-center: UW, UM, Duke
- TV US images reviewed
  - December 2010-June 2011
- Features recorded
  - Cyst type and size, septations, nodules, blood flow
Methods: Lesion Selection Criteria

- Indeterminate

  - All cystic adnexal lesions
    - Internal thick septations (>3mm)
    - Internal papillary projections, nodules, soft tissue components (mixed solid/cystic lesion)
  
  - Atypical endometriomas/atypical dermoids/ atypical hemorrhagic cysts

  - Incompletely evaluated lesions
    - All adnexal lesions >5cm in max diameter**

Methods: Lesion Selection Criteria

- Indeterminate
- Thick septations (> 3mm) without flow
- Example:
Methods: Lesion Selection Criteria

- Indeterminate
- Nodule (non-hyperechoic) without flow
- Example:

Distance = 6.3cm
Methods: Lesion Selection Criteria

- Indeterminate
- Incompletely evaluated
  - Size > 5 cm**

Example:

Methods: Lesions Not Included

- Lesions with malignant features
  - Lesions with internal components with blood flow
- Classic lesions <5cm in diameter
  - Simple cyst
  - Hemorrhagic cyst/corpus luteal
  - Endometrioma
  - Dermoid
- Solid lesions
Follow-up inclusion criteria end points:

- Surgical pathology
- Resolution or decreased size on follow-up imaging
- Normal pelvic exam ≥ 2 years after US
Results

- 589 lesions included in the study
  - 166 were indeterminate by study criteria (28%)

Demographics

- AGE: 43 +/- 14 years
  - Pre-menopausal: 115/166 (69%)
  - Post-menopausal: 42/166 (25%)
  - Unknown menstrual status: 9/166 (5%)
Results

Indeterminate Lesions

- Physiologic or Non-Neoplastic Benign Cysts: 119/166
- Benign Neoplasms (Cystadenomas or Dermoids): 40/166
- Malignant Neoplasms: 7/166
Discussion

- The high percentage (72%) of physiologic and non-neoplastic lesions in our study population may be secondary to:
  - Low risk population
  - High percentage of pre-menopausal patients (69%)
Discussion

- 24% of the sonographically indeterminate adnexal lesions were benign ovarian neoplasms.
- 4% of the sonographically indeterminate adnexal lesions were malignant neoplasms.

These results underscore the importance of follow up in women with sonographically indeterminate lesions.
Limitations

- Retrospective in nature
  - Selection bias
- General outpatient population
  - Low risk population
  - High percentage of pre-menopausal women (69%)
- Small number of malignant neoplasms (n=7)
Conclusion

- US indeterminate lesions
- Significant number of neoplastic
- Follow-up is prudent
- MRI
THANK YOU FOR YOUR ATTENTION!

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