

September 2012

Ovarian and Adnexal Cysts

The finding of ovarian and pelvic cysts causes considerable anxiety in women, and is associated with uncertainty in medical management. The need to repeat examinations for benign physiologic and inconsequential pelvic cysts should be limited even though ultrasound is a low risk follow-up imaging procedure. Multidisciplinary consensus guidelines for asymptomatic ovarian cysts are valuable in determining management and follow up based on benign, malignant or indeterminate classifications.

Most pelvic cysts, including those in post menopausal women, are benign. Ultrasound frequently identifies these as an incidental or unexpected finding, and is usually the preferred imaging technique for determining if the cyst is ovarian or non ovarian and for further characterisation. Most cysts are classified as simple, hemorrhagic, endometriotic, or dermoids. The remainder are indeterminate or possibly malignant which require sequential review, MRI or surgical removal.

The normal ovary

- Developing follicles and dominant follicles (< 3cm)
- Corpus luteum with thick walls, and peripheral vascularity (< 3cm)
- The post menopausal ovary is atrophic without follicles

Simple cyst

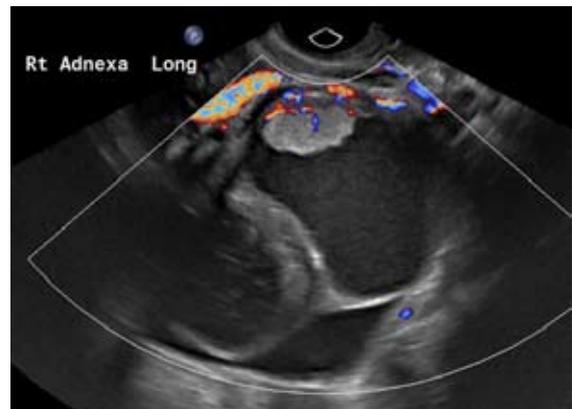
- Thin walled and containing fluid with no internal echoes
- Most are simple physiologic (follicular or luteal) cysts in premenopausal women
- Physiologic cysts may be seen in post menopausal women
- In screening women 50 years or older, 18% had unilocular cysts of which none were cancers
- Paratubal cysts, hydrosalpinges and cystadenomas may mimic simple ovarian cysts
- Cysts < 3.0 cm in women of reproductive age are a normal physiologic finding
- Cysts < 7.0 cm in pre and post menopausal women are almost certainly benign. Surgical evaluation or MR of cysts larger than this should be contemplated

Hemorrhagic ovarian cyst

- Characterised by fibrin stranding, giving fishnet or lacy appearances, and low level echoes, sometimes blood clot.
- Typically resolve in 8 weeks
- Cysts > 5 cm in premenopausal women require short term 6-12 week follow-up
- Cysts < 5 cm in post menopausal women require short term 6-12 week follow-up
- Women in the early postmenopause (within 5 years of final menstrual period) may occasionally ovulate with hemorrhagic cysts, and require short term US review
- Haemorrhagic cysts should not occur in the late postmenopause (more than 5 years since last menstrual period) and require MR and /or surgical evaluation as possibly neoplastic

Endometrioma

- Can sometimes mimic haemorrhagic cysts. Confident diagnosis made by presence of "ground glass" homogeneous low level echoes, absence of internal vascular flow, without enhancing nodules or masses
- Probable endometriomas require 6-12 week follow up to exclude hemorrhagic cysts
- The need for follow up is based on symptoms, with annual review recommended to confirm stability.
- < 1% of endometriomas undergo malignant transformation



Malignant ovarian cyst, with septations, nodularity and free fluid

Dermoid

- If not removed surgically, annual review recommended to confirm stability
- Low malignant potential, most are detected 15-20 years before this change occurs

Hydrosalpinx

- Follow up only as clinically indicated
- Do not require follow-up unless symptomatic or atypical

Peritoneal inclusion cyst

- Typically seen with prior surgery, endometriosis, or pelvic inflammatory disease
- Follow up is variable, and as clinically indicated or with non classic features



Ovarian dermoid cyst

RECOMMENDATIONS:

Equivocal – interval US

- If confident diagnosis of endometrioma, haemorrhagic cyst or dermoid is not possible short interval US in 6-12 weeks is recommended, as this allows resolution of physiologic cysts, ideally should be performed day 3 -10 of the cycle

Indeterminate - MR and/or surgical review

- Multiple thin septations with and without vascularity, avascular solid nodules and focal cyst wall thickening are all indeterminate for malignancy and merit MR characterisation or surgical review

Possibly Neoplastic- MR and/or surgical review

- Other cysts regarded as possibly neoplastic, possibly malignant
- Risk of neoplasia and malignancy increases with cyst size
- Cysts > 10 cm have a 13% chance of malignancy
- Septations which are thickened and vascularised increase the risk of malignancy.
- Vascularised nodules, papillary projections and solid masses are associated with neoplasia
- Thick, irregular walled cysts are more often malignant, but exceptions include corpus luteum cysts.
- Secondary findings include ascites, peritoneal deposits and lymphadenopathy

RISK DETERMINATION:

Includes consideration of multiple factors in addition to cyst morphology

- Symptomatic versus incidental finding
- Risk group (e.g. menopausal status, family history of breast or ovarian cancer, BRCA1 or 2 carriers etc)
- Most cystic ovarian lesions are benign
- Malignancy risk increases with age
- Low risk in simple cysts of <10 cm in post menopausal women
- Post menopausal complex cysts require work-up because of risk of malignancy

Decisions regarding which cysts require follow up and further management can be difficult and our radiologists are available for further advice.

Dr Robert Sim

Reference:

Levine D, Platt L, Benacerraf B et al; Radiology 2010: 256; 3; 943-95

ARG launches new PACS (Picture Archiving and Communication System):

IntelePACS is now installed and running at ARG. This software is used to store and display images, and allows referrers to display images on their office/surgery computers, home or mobile devices.

More information available from our website www.arg.co.nz or email our IT department argit@akradiology.co.nz