Ovarian Cysts & Accidents

Ovarian Cysts

Royal College of Obstetricians & Gynaecologists

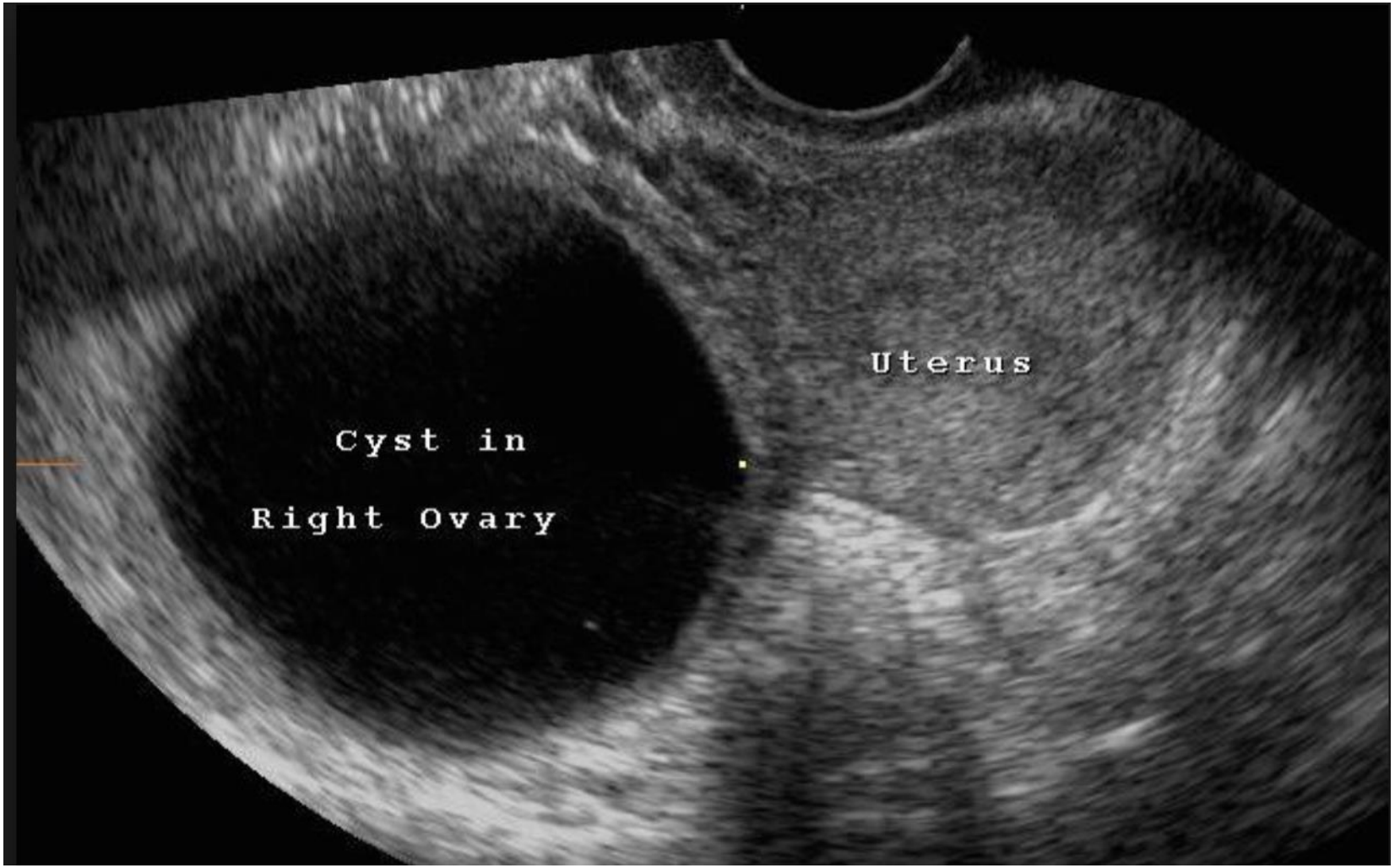
The Management of Ovarian Cysts in Postmenopausal Women

Royal College of Obstetricians & Gynaecologists

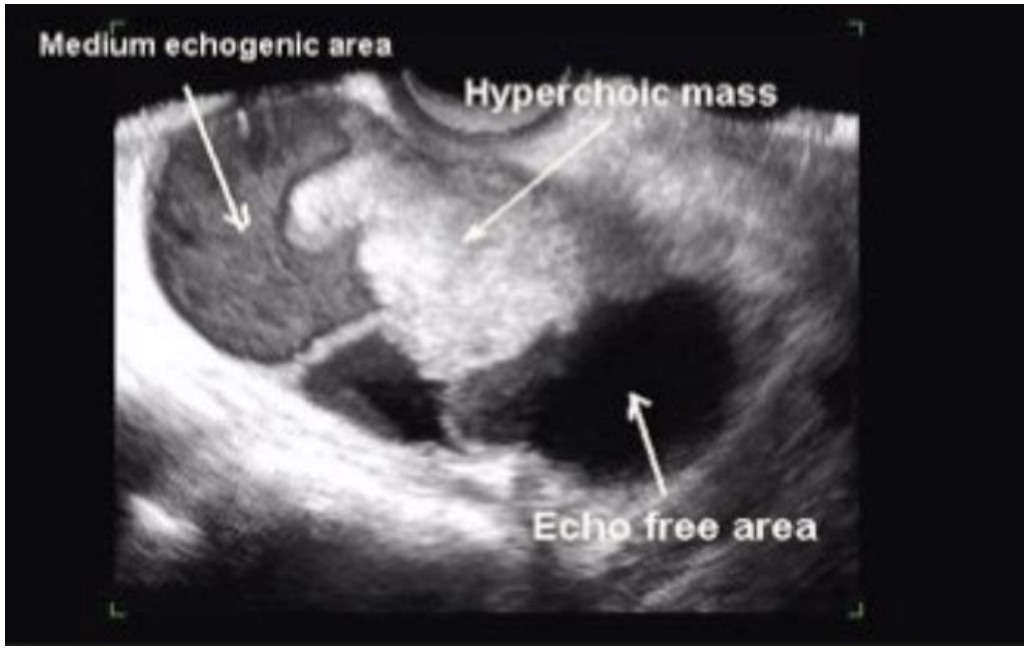
Management of Suspected Ovarian Masses in Premenopausal Women

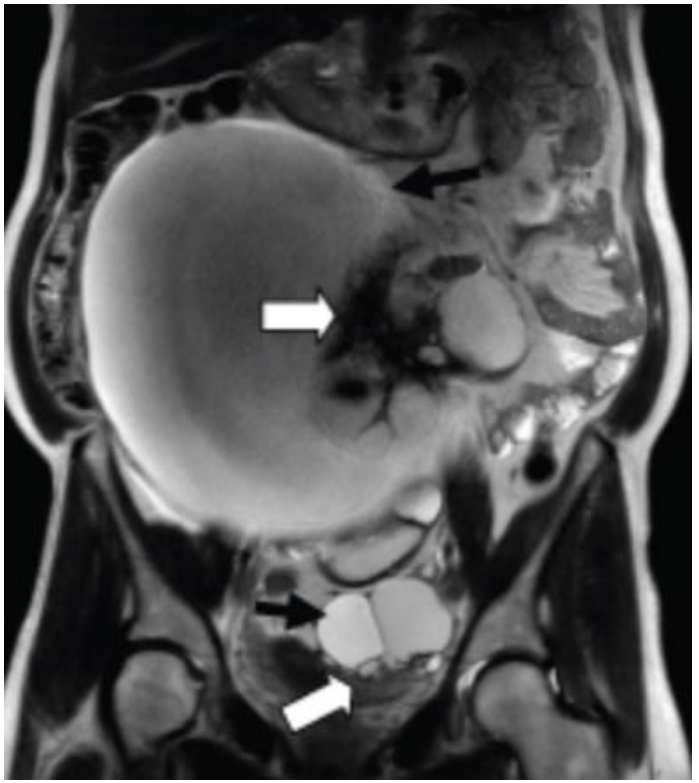
Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

What is a simple cyst?



What is a complex cyst?





Premenopausal Women

- **Approx 10% of women will have surgery for an ovarian cyst**
- **Tend to be benign in young women**
- **More difficult to pre-operatively decide if benign or malignant**

The underlying management rationale is to minimise patient morbidity by:

- **conservative management where possible**
- **use of laparoscopic techniques where appropriate, thus avoiding laparotomy where possible**
- **<u>referral to a gynaecological oncologist where appropriate.</u>**

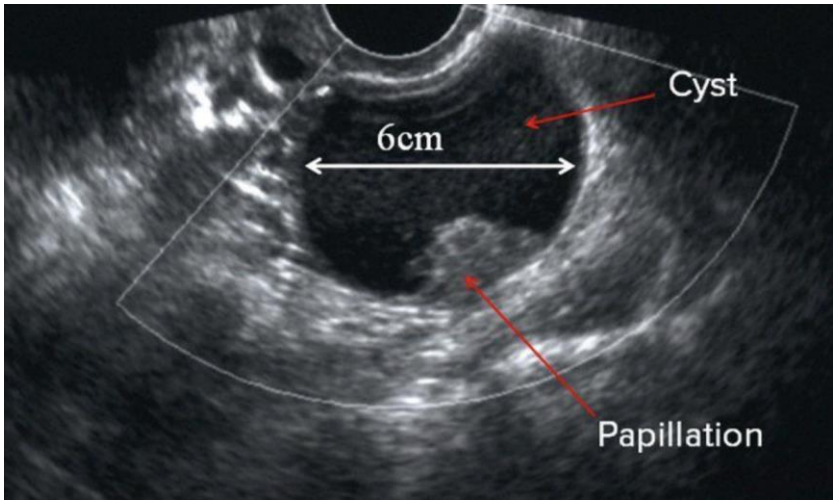
Symptoms

- **Asymptomatic.**
- **Pain**
- **Pressure symptoms – bloating, urinary frequency, bowel symptoms**
- **Symptoms of endometriosis**
- **Sinister features**

Types of ovarian cysts in young women

Benign ovarian	Functional cysts Endometriomas Serous cystadenoma Mucinous cystadenoma Mature teratoma
Benign non-ovarian	Paratubal cyst Hydrosalpinges Tubo-ovarian abscess Peritoneal pseudocysts Appendiceal abscess Diverticular abscess Pelvic kidney
Primary malignant ovarian	Germ cell tumour Epithelial carcinoma Sex-cord tumour
Secondary malignant ovarian	Predominantly breast and gastrointestinal carcinoma.

Complex Cysts



- **Ascites**
- **Bilateral lesions**
- **Septations**
- **Solid Components/Papillary projections**
- **Metastases**

Risk of Malignancy Index (RMI)

CALCULATION OF THE RMI I

The RMI I combines three presurgical features. It is a product of the serum CA125 level (iu/ml); the menopausal status (M); and an ultrasound score (U) as follows:

RMI = U x M x CA125

- The ultrasound result is scored 1 point for each of the following characteristics: multilocular cysts, solid areas, metastases, ascites and bilateral lesions.
  U = 0 (for an ultrasound score of 0)
  U = 1 (for an ultrasound score of 1)
  U = 3 (for an ultrasound score of 2–5)
- The menopausal status is scored as:
  1 = premenopausal
  3 = postmenopausal
  This guideline is directed at postmenopausal women and therefore all will be allocated the same score of 3 for menopausal status.
- Serum CA125 is measured in iu/ml and can vary between zero and hundreds or even thousands of units.

malignant[1,4,5]	
Benign (B-rules)	**Malignant (M-rules)**
Unilocular cysts	Irregular solid tumour
Presence of solid components where the largest solid component <0.7 cm	Ascites
Presence of acoustic shadowing	At least four papillary structures
Smooth multilocular tumour with largest diameter <10 cm	Irregular multilocular solid tumour with largest diameter >10 cm
No blood flow	Very good blood flow

false positives and reduced specificity.

CA-125 may be raised in numerous conditions including fibroids, endometriosis, adenomyosis and pelvic infection.

A raised serum CA-125 should be interpreted cautiously.

Tumour markers in young women

Lactate dehydrogenase (LDH), α-FP and bhCG

should be measured in all women under age 40 with a COMPLEX ovarian mass because of the possibility of germ cell tumours

CA 125 can be raised in many conditions

young women such as? . . . . . .

CA-125 is primarily a marker for epithelial ovarian carcinoma and is only raised in 50% of early stage disease

Causes of elevated CA125

Malignant conditions

- Gynecologic Cancers
- Epithelial ovarian cancer
- Some germ cell tumors
- Some stromal tumors
- Fallopian tube cancers
- Endometrial cancer
- Endocervical cancer

Non Gynecologic Cancer ;

- Pancreatic cancer
- Lung cancer
- Colon cancer

Benign conditions

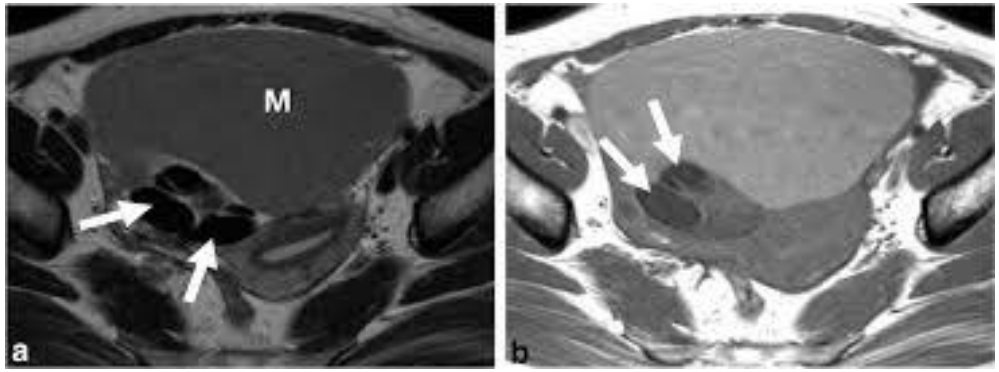
- Endometriosis
- Leiomyomata uteri
- Ectopic pregnancy
- Normal pregnancy
- Pelvic inflammatory disease
- Menses

Nongynecologic conditions ;

- Pancreatitis
- Cholecystitis
- Cirrhosis
- Peritonitis
- Peritoneal tuberculosis
- Peritoneal sarcoidosis
- Recent laparotomy

Imaging

- **A pelvic ultrasound is the single most effective way of evaluating an ovarian cyst**
- **Transvaginal USS is preferable due to its increased sensitivity over transabdominal USS**
- **MRI may aid diagnosis**



- **An estimation of the risk of malignancy is essential in the assessment of an ovarian mass**

RMI = U x M x CA-125

- **Referral to a gynaecological oncologist:**

serum CA-125 of more than 200 units/ml.

ascites.

evidence of abdominal or distant metastasis.

a first-degree relative with breast or ovarian cancer.

Management:

- < 50 mm diameter, simple ovarian cysts not require follow-up as, very likely to be physiological and almost always resolve within 3 menstrual cycles.

- Simple ovarian cysts of 50–70 mm in diameter should have yearly ultrasound follow-up.

- Larger simple cysts should be considered for either further imaging (MRI) or surgical intervention; difficulties in examining the entire cyst adequately at time of ultrasound.

Treatment:

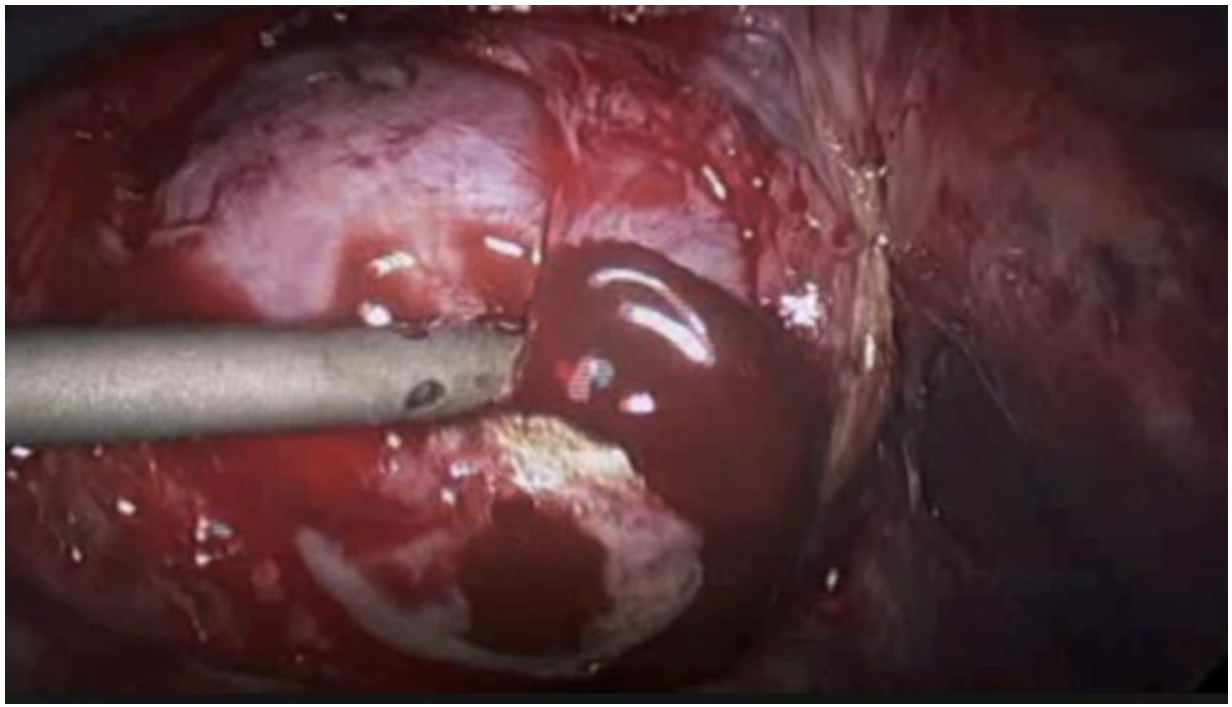
- Ovarian cysts that persist or increase in size are unlikely to be functional and warrant surgical management.

- The use of the combined oral contraceptive pill does not promote the resolution of functional ovarian cysts.
- Aspiration of ovarian cysts, is less effective and is associated with a high rate of recurrence
- Laparoscopic management of presumed benign ovarian cysts should be undertaken
- Spillage of cyst contents should be avoided where possible

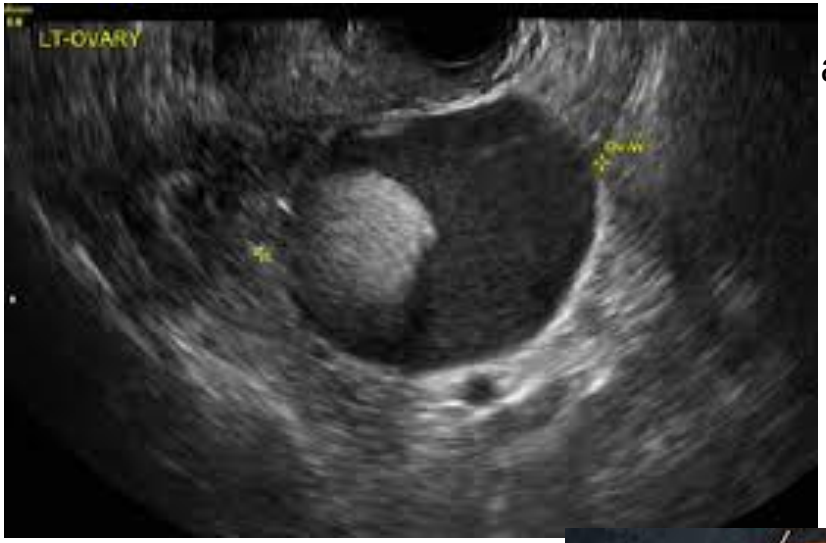
Endometriomas

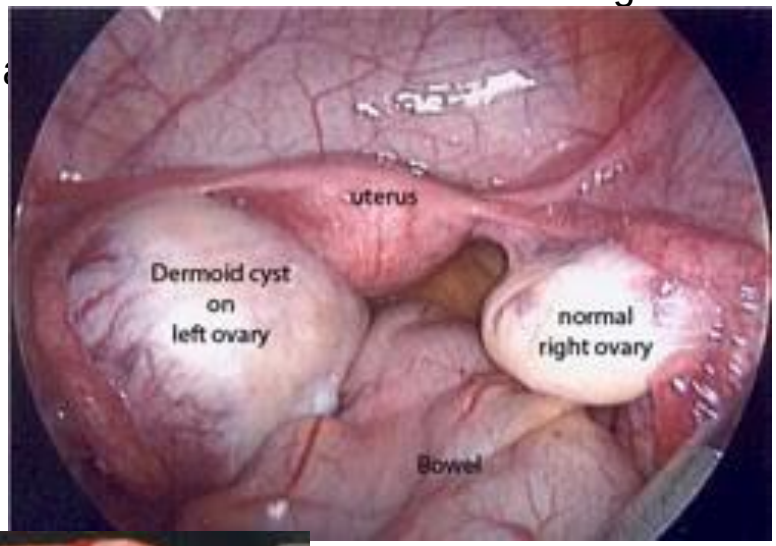
Should be removed if >5cm, causing symptoms or issues with fertility

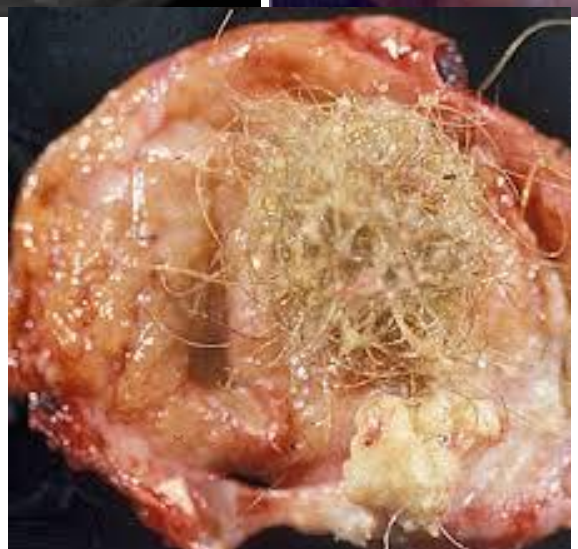
Chocolate cysts



- There is consensus on the size above which surgical management should be considered. Most studies have used maximum diameter of 50–60 mm among their







Postmenopausal Women

Cyst in a post menopausal woman is a tumour until proven otherwise

Symptoms:

- **B**loating
- **E**arly saiety
- **A**bdominal Distension/Pain
- **T**oilet - Urinary frequency

Incidence is approx between 4 – 17%

Can be detected incidentally

History

Full examination inc pelvic

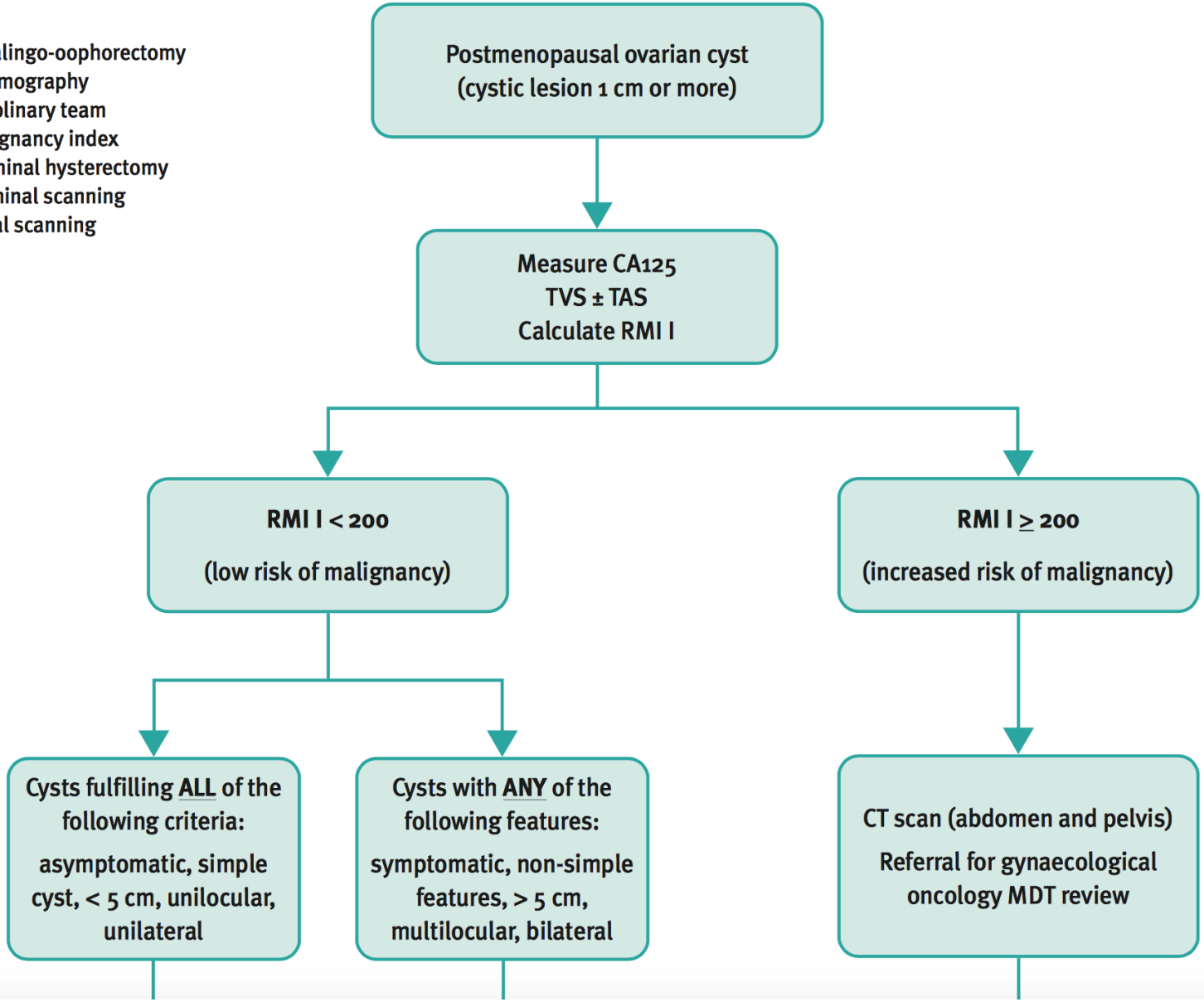
USS

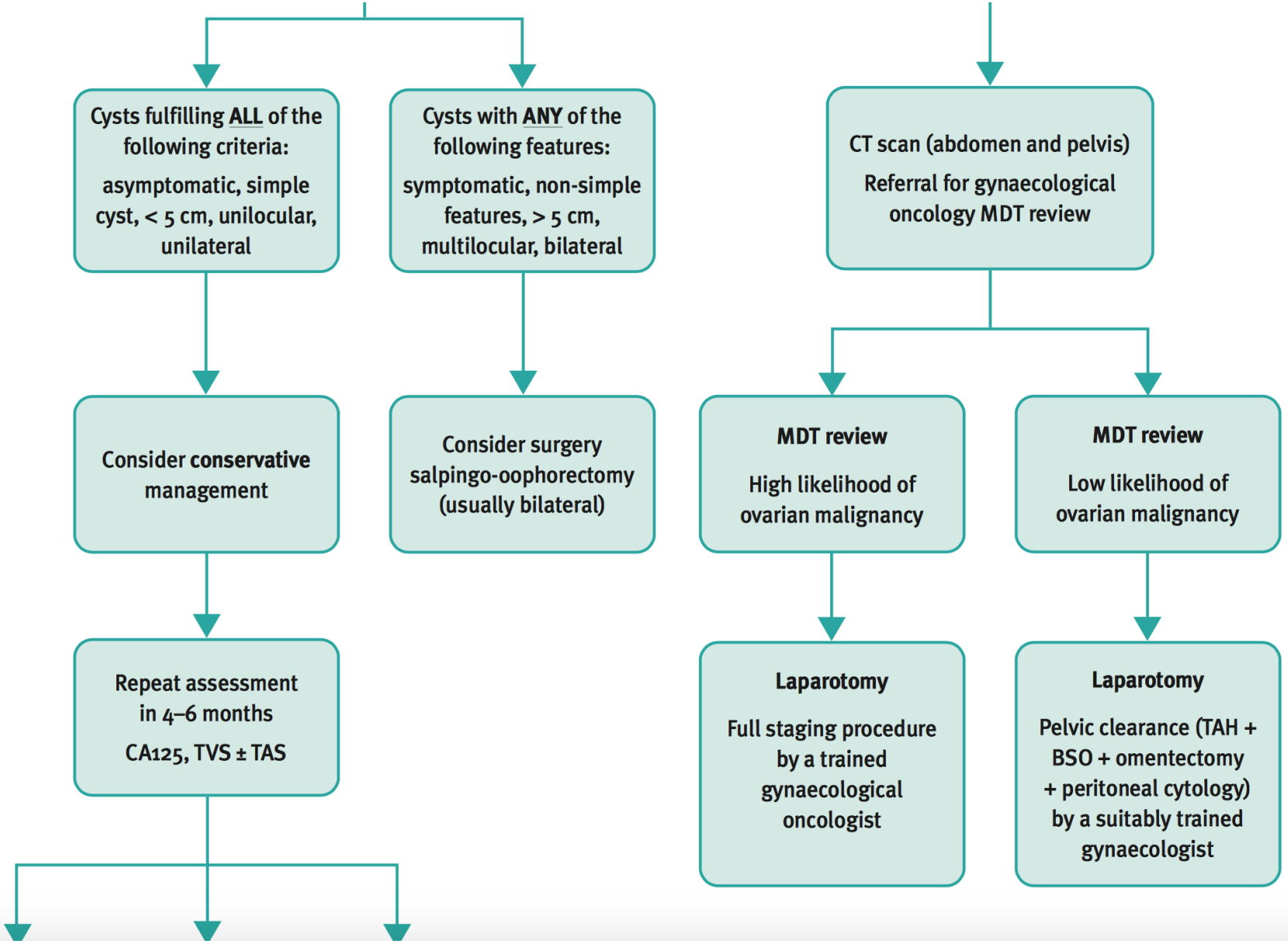
Bloods – CA 125

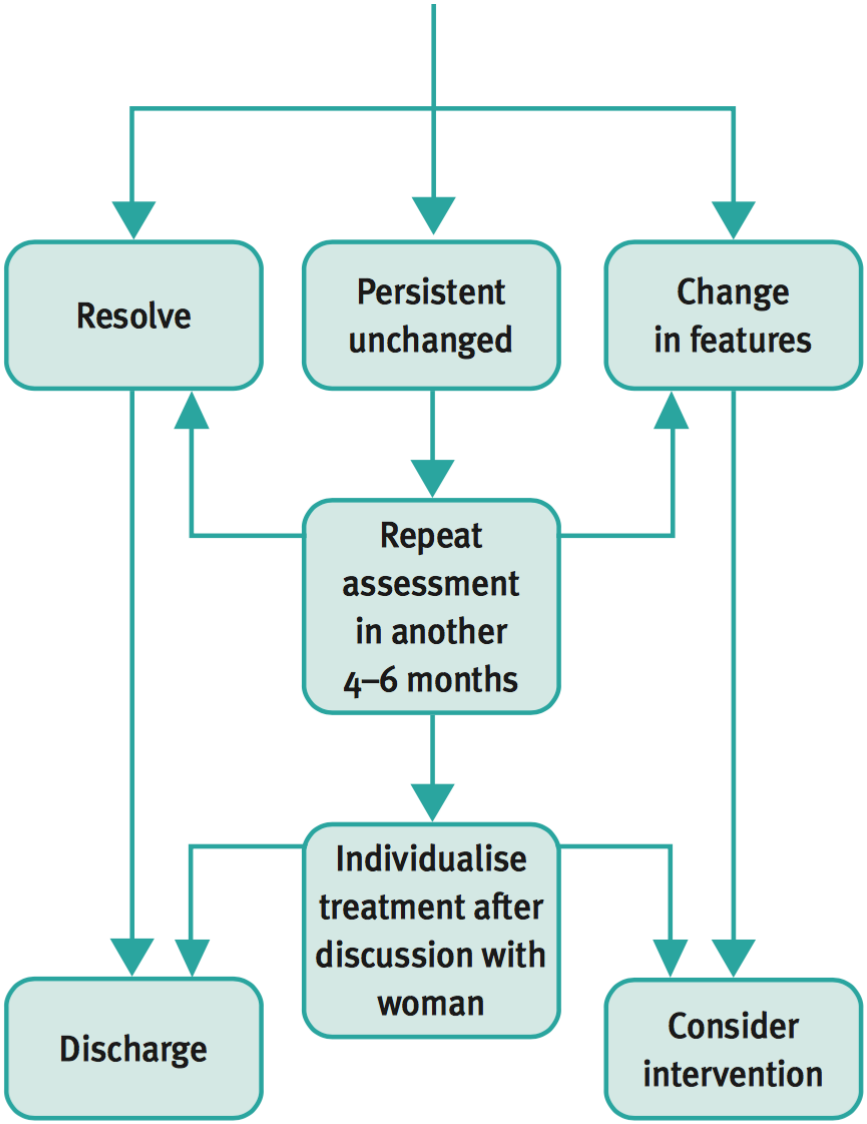
CT TAP/MRI

Abbreviations

BSO bilateral salingo-oophorectomy
CT computed tomography
MDT multidisciplinary team
RMI risk of malignancy index
TAH total abdominal hysterectomy
TAS transabdominal scanning
TVS transvaginal scanning




Cysts fulfilling ALL of the following criteria:
asymptomatic, simple cyst, < 5 cm, unilocular, unilateral
Cysts with ANY of the following features:
symptomatic, non-simple features, > 5 cm, multilocular, bilateral
CT scan (abdomen and pelvis)
Referral for gynaecological oncology MDT review
Consider conservative management
Consider surgery salpingo-oophorectomy (usually bilateral)
MDT review
High likelihood of ovarian malignancy
MDT review
Low likelihood of ovarian malignancy
Repeat assessment in 4–6 months
CA125, TVS ± TAS
Laparotomy
Full staging procedure by a trained gynaecological oncologist
Laparotomy
Pelvic clearance (TAH + BSO + omentectomy + peritoneal cytology) by a suitably trained gynaecologist


Resolve
Persistent unchanged
Change in features
Repeat assessment in another 4–6 months
Individualise treatment after discussion with woman
Discharge
Consider intervention

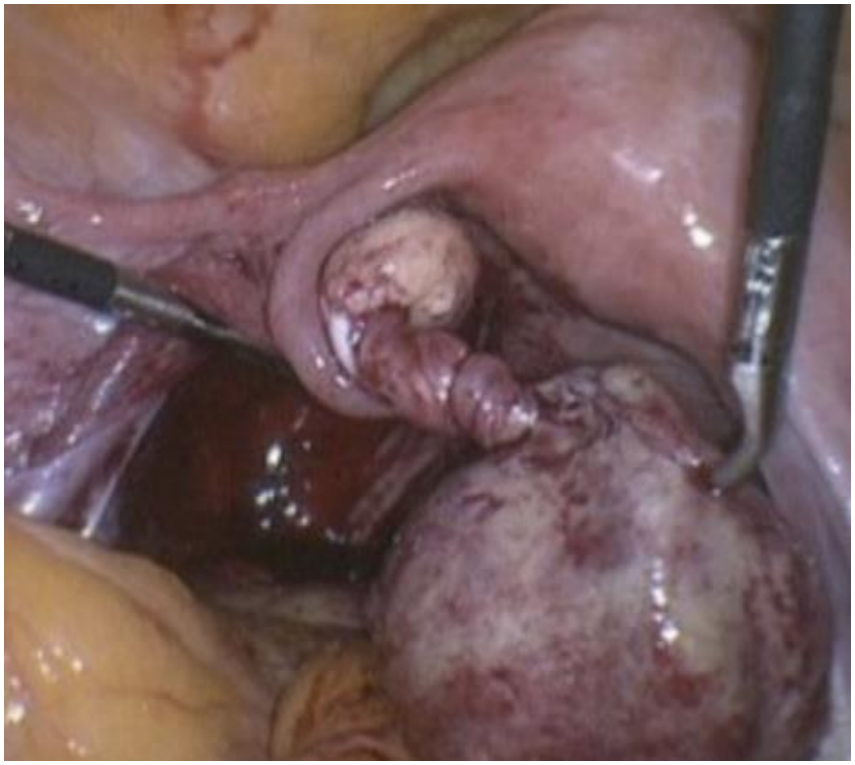
OVARIAN TORSION

Ovarian Torsion is where the ovary twists on itself stops it's blood supply, goes septic/black and dies . . . . . .

. . . . . .

and if untreated the patient goes septic/black and dies!

Ovarian Torsion



- Patients with ovarian torsion often present with sudden onset of sharp and usually unilateral lower abdominal pain
- 70% of cases accompanied by nausea and vomiting
- Raised WCC & CRP
- O/E Tender +/- guarding

USS findings

Doppler:

- Little or no intra-ovarian venous flow. This is commonly seen in ovarian torsion.
- Absent arterial flow. This is a less common finding in ovarian torsion
- Absent or reversed diastolic flow

Other USS features include:

1. Enlarged hypoechogenic or hyperechogenic ovary
2. Peripherally displaced ovarian follicles
3. Free pelvic fluid. This may be seen in more than 80% of cases
4. *Whirlpool sign* of twisted vascular pedicle
5. Underlying ovarian lesion can often be found
6. Uterus may be slightly deviated towards the torted ovary.

Treatment

- ABCDE
- Analgesia
- Laparoscopy to uncoil the torted ovary
- Possibly oophoropexy to fixate the ovary which is likely to twist again
- Where blood flow is cut off to the ovary for an extended period of time, **necrosis** of the ovary can occur
- So progress oophorectomy

Questions

1. **67 year old woman with RIF pain, bloating and urinary frequency presents. What investigations would be your first choice?**

   - CA 125, CT abdomen and pelvis

   - CA 153, Ultrasound

   - CA 125, Ultrasound

   - CA 153, Ultrasound and then MRI pelvis

Questions

2. Her CA 125 is 300 and the USS shows bilateral cysts that have septations and a small amount of ascites. What is her RMI?

- 2700

- 900

- 300

- 3300

Questions

3. What should you do next? List 4 things

Questions

4. A 27 year old with painful periods has RIF pain and USS has shown a 3cm simple cyst. What is your plan?

- **Tumour markers and MRI Scan**
- **Tumour markers and Repeat USS in 3 months**
- **Repeat USS in 3 months**
- **Discharge**