Ovarian serous cystadenoma

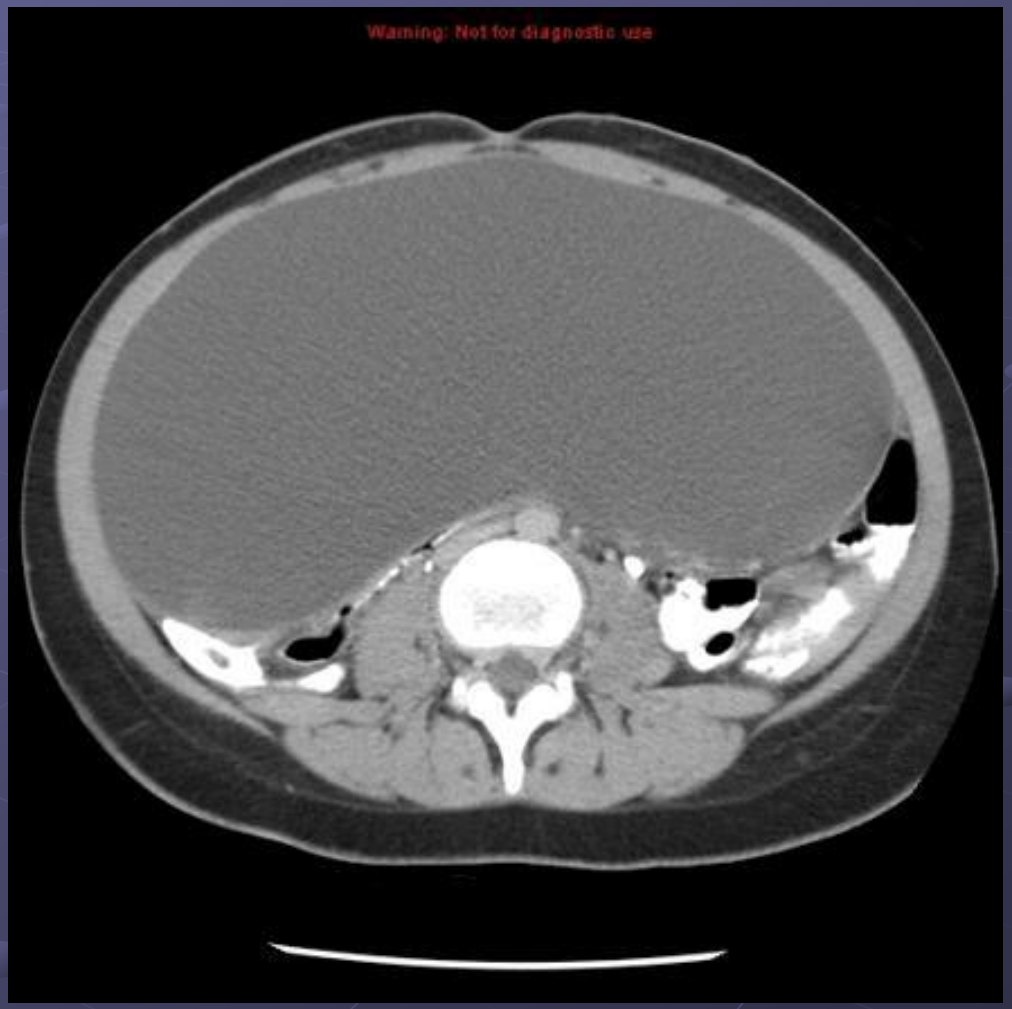
- Type of benign ovarian epithelial tumour at the benign end of the spectrum of ovarian serous tumours.
- **Epidemiology**
  - Serous cystadenomas account for ~60% of ovarian serous tumours [1]. They are the commonest type of ovarian epithelial neoplasm. The peak incidence is at the 4th to 5th decades of life.
- **Clinical presentation**
  - Generally asymptomatic. If symptoms are present, they are usually related to mass effect with displacement of adjacent structures, e.g. loops of bowel, adnexal torsion.
- **Pathology**
  - Thought to largely derive from ovarian epithelial inclusions, which itself is derived from fallopian tube epithelium.
- Bilateral in ~15% of cases.

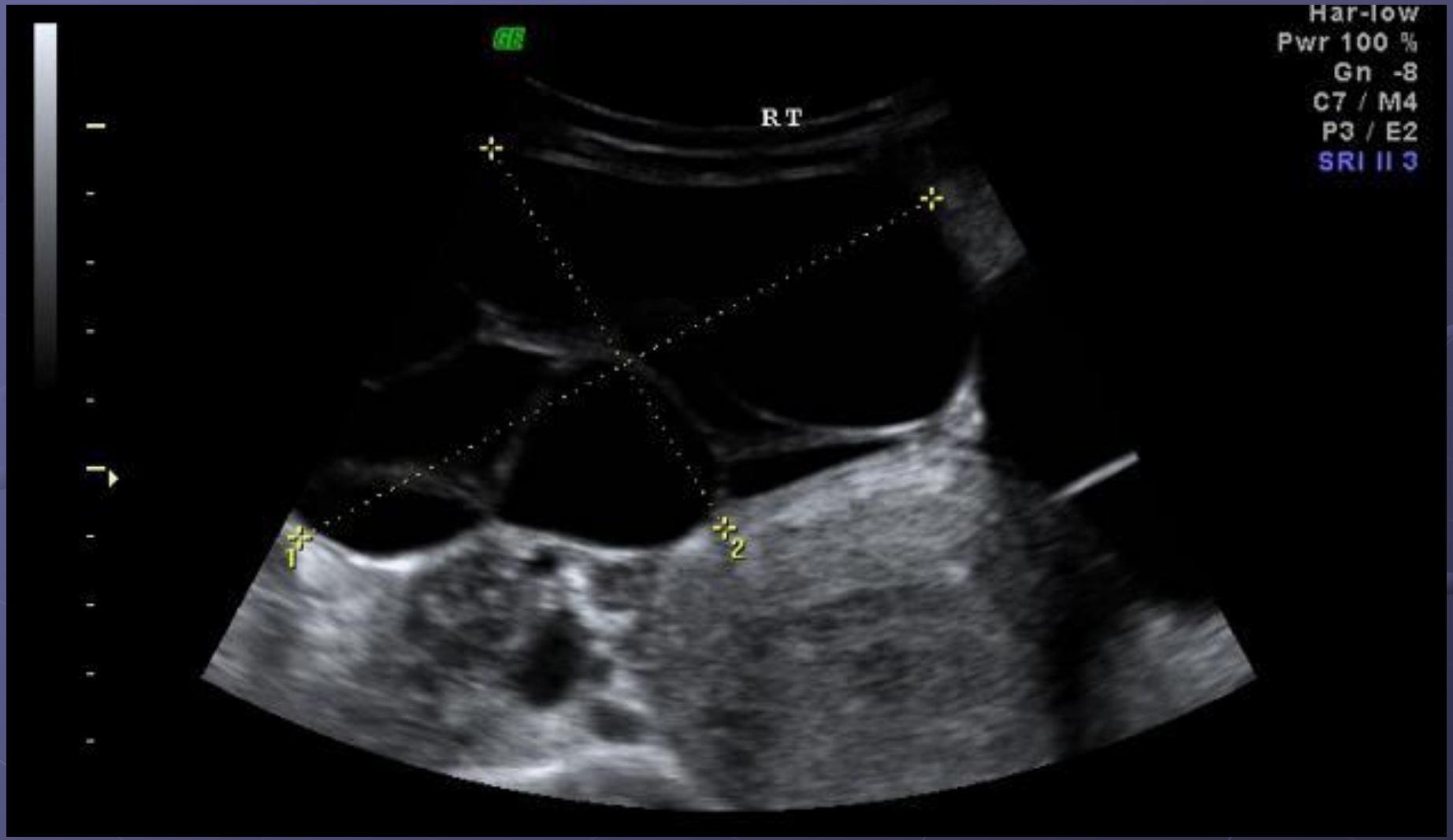
US

- Usually seen as a unilocular cystic/anechoic adnexal lesion
- papillary projections are absent
  - if there is any wall irregularity, it is thin, with an acute angle with the cyst wall and has a regular surface [5]
- some lesions may contain sonographically detectable septations
- no flow is detected on colour doppler
- higher resistive and pulsatility indices on pulsed doppler when compared to malignant neoplasms

CT

- Often seen as a unilocular (typically) or multilocular cystic mass with homogeneous CT attenuation, with a thin regular wall or septum, and usually no endocystic or exocystic vegetation [1,4].
- Cysts can be quite large in size and have the potential to be seen filling most of the lower pelvis with extension into the upper abdomen.




RT
Har-low
Pwr 100 %
Gn -8
C7 / M4
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SRI II 3
1
2

DDX:

- **Functional Cysts of Ovary**
  - Follicular cysts or corpus luteum cysts may mimic cystadenoma
    - Functional cysts typically resolve over 1-2 menstrual cycles, whereas cystadenomas will persist unchanged or grow
      - Recommend US follow up in 4-6 weeks
    - Corpus luteum cysts tend to show observable flow in wall on color Doppler and have thicker wall than serous cystadenomas
      - Presence of papillary projections and nodular septa should suggest an ovarian neoplasm
- **Paratubal Cyst**
  - Paratubal cysts are separate from ovary
    - Every effort should be made during TVUS to separate cyst from ovary by pushing transducer between cyst and ovary to establish its extraovarian location
- **Low Malignant Potential and Malignant Serous Tumors**
  - Features that are more suggestive of benign epithelial tumors include
    - Size < 4 cm
    - Unilocular
    - Entirely cystic with no solid components
    - Wall thickness < 3 mm
    - Lack of internal structure
    - Absence of both ascites and invasive characteristics such as peritoneal disease or adenopathy
- **Endometrioma**
  - May appear as a unilocular cyst or multilocular cysts
    - MR
      - T1WI
        - Cyst contents show very high signal intensity
      - T2WI
        - Cyst contents show low signal intensity (shading), a rare pattern in serous cystadenomas
    - TVUS
      - Classic carpeting of low-level echoes ± avascular mural nodules
- **Mucinous Cystadenoma**
  - Usually larger and multiloculated
  - Variable densities or signal within loculations on CT and MR owing to mucinous debris and hemorrhage ("stained glass" appearance)
  - TVUS demonstrates regions of varying echogenicity
- **Mature Teratoma**
  - Readily recognized on CT by presence of fat and calcifications
  - MR
    - T1WI
      - High signal intensity due to presence of fat
      - Fat-suppressed scans are diagnostic and confirm presence of fatty elements
    - T2WI: Intermediate signal intensity
  - TVUS: Cystic adnexal mass containing an echogenic focus with distal acoustic shadowing