RANZCOG SYMPOSIUM 2022 New Perspectives

Clear Cell Borderline Tumour of the Ovary – A Case Report

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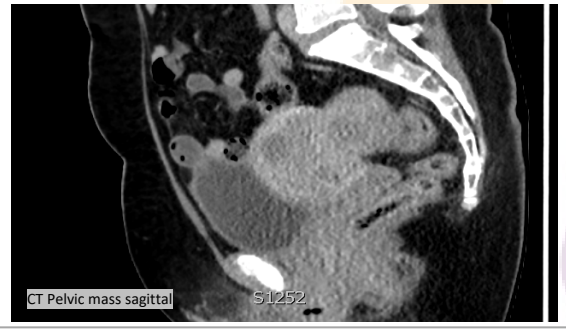
Background: Clear cell borderline ovarian tumour (CCBOT) is a rare disorder which accounts for less than 1% of borderline ovarian tumours (BOT). It is thought to be a precursor to clear cell carcinoma, however this is not well established. There has been an increased incidence of BOT which may relate to increased awareness [1].

Histological features of BOT include:
- Slight nuclear atypia or cellular proliferation
- With or without microinvasion - defined as < 5 mm foci of stomal invasion [2]

CCBOT is defined as:
- Tumours characterized by glands lined by cubic or flat cells
- With enlarged nuclei, clear, or eosinophilic cytoplasm, low mitotic activity
- Sometimes with nucleoli, with or without a fibromatous component [2]

They are typically unilateral and solid, rarely being cystic and are often diagnosed in postmenopausal patients [3].

Prognosis of CCBOT is favourable, with 6 year follow up showing nearly all patients in remission without adjuvant treatment. A case review identified 81 cases of CCBT, of which 2 cases had disease recurrence but no mortality [2].
A high rate of synchronous endometrial disorders has also been noted, as is seen in this case, as well as an association with endometriosis in it's pathogenesis [4,5].



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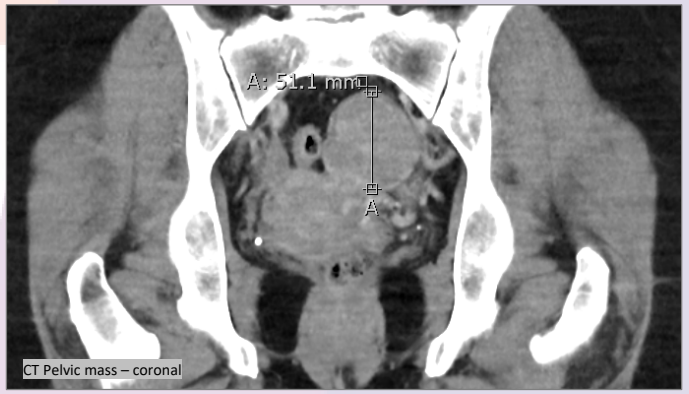
Case:
- 59 year old G2P2 (2 x SVB) with 6 weeks of postmenopausal bleeding, pelvic + lower back pain + stress urinary incontinence
- No bowel changes
- Never used HRT
- CST Normal, up to date
- PMHx – nil significant
- PSurg Hx – Sumpra-umbillical ventral hernia repair
- No smoking/regular alcohol/drugs

Examination:
- BMI = 32
- Speculum: Atrophic cervix, unable to pass a pipelle
- PV: bulky tender uterus. Solid mass in the left adnexa with limited mobility
- PR: nodular mass in pouch of douglas
- No palpable lymphadenopathy



Investigations:
- Ca 125 (37) and Ca19.9 (68) mildly elevated
- CEA < 1, HE4 = 63.5. ROMA 36 % =. RMI = 111 (Low risk)

- USS: 16 mm thickened endometrium, 5 cm left adnexal mass
- CT: 65 mm solid Left adnexal mass, difficult to distinguish between ovarian or uterine origin. No nodal or metastatic disease. Adenomyosis and fibroid uterus.

A Hysteroscopy, Dilatation and Endometrial Curettage was completed.
Endometrial Histopathology: **Simple hyperplasia without atypia**.

Management: Referred for Gynae-Oncology review with the initial impression concerning for solid pelvic mass of unclear diagnosis.

Operation: Total Laparoscopic Hysterectomy + Bilateral Salping-Oophorectomy + Washings + Frozen Section at a tertiary centre.

Operative findings:
- **Solid left ovarian mass adherent to the left side wall and ovarian fossa**
- **Evidence of endometriotic deposits** on the sigmoid colon, Tethered uterosacrals and rectum tethered in pouch of douglas

Frozen section: suggested mucinous adenocarcinoma suspicious for non-ovarian primary. This was disregarded in the formal report.

Formal histology report:
- **Clear cell borderline tumour of the left ovary with an adenofibromatous pattern**
- A **tiny contralateral lesion** may represent a **right ovarian clear cell adenofibroma** with flattened, bland cells in a tubular pattern in fibromatous stroma
- Nuclear atypia is low and marker proliferation or cystic growth is not seen
- Adnexal endometriosis
- Negative washings and no metastatic disease

Final diagnosis: Stage I Ovarian Clear Cell Borderline Tumour.

The patient recovered well post-operatively, had normal tumour markers and no evidence of recurrence at her 4 month review.

Other subtypes of borderline tumours are typically discharged from the clinic. However, given the limited data and unclear follow up, a decision was made for the following plan.

Follow up:
- **4 monthly review with tumour markers (Ca 125 + Ca 19.9) for 2 years, then 6 monthly for a 3rd year to monitor for recurrence**
- Consider discharge after if nil evidence of recurrence

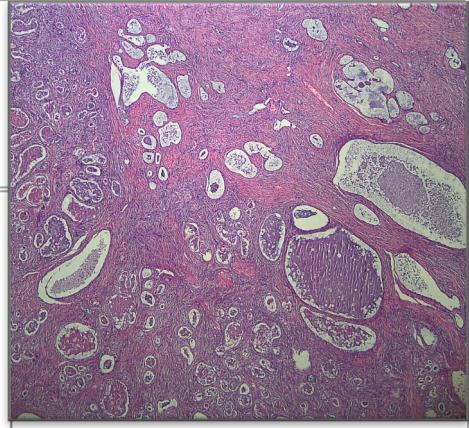


Figure 1 (Above): This low power image shows variably sized glands embedded within a fibromatous stroma.

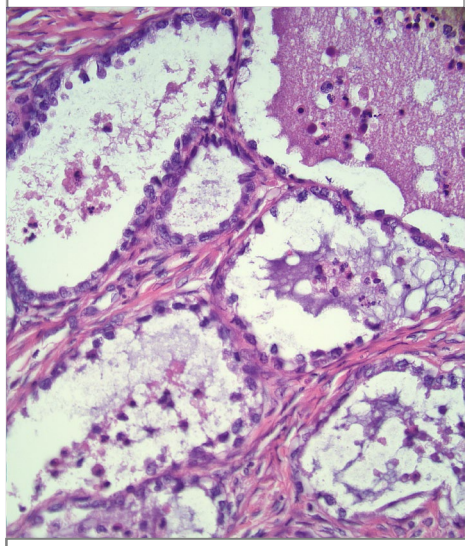


Figure 2: Higher magnification shows glands are lined by a single layer of cuboidal cells with enlarged, hobnail nuclei and focal nucleoli. Some cells have clear cytoplasm. Mitotic activity is low.

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