

Adult granulosa cell tumour with prominent thecoma-like morphology

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Background

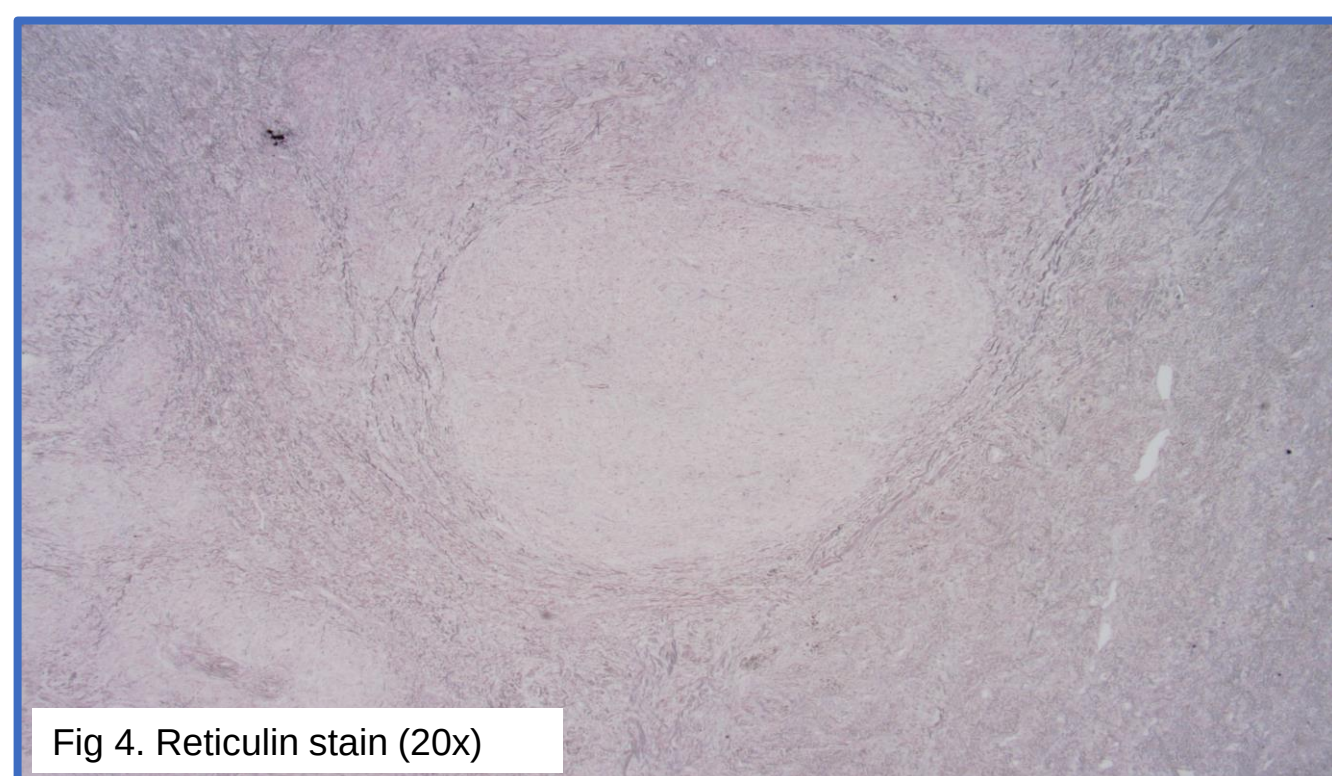
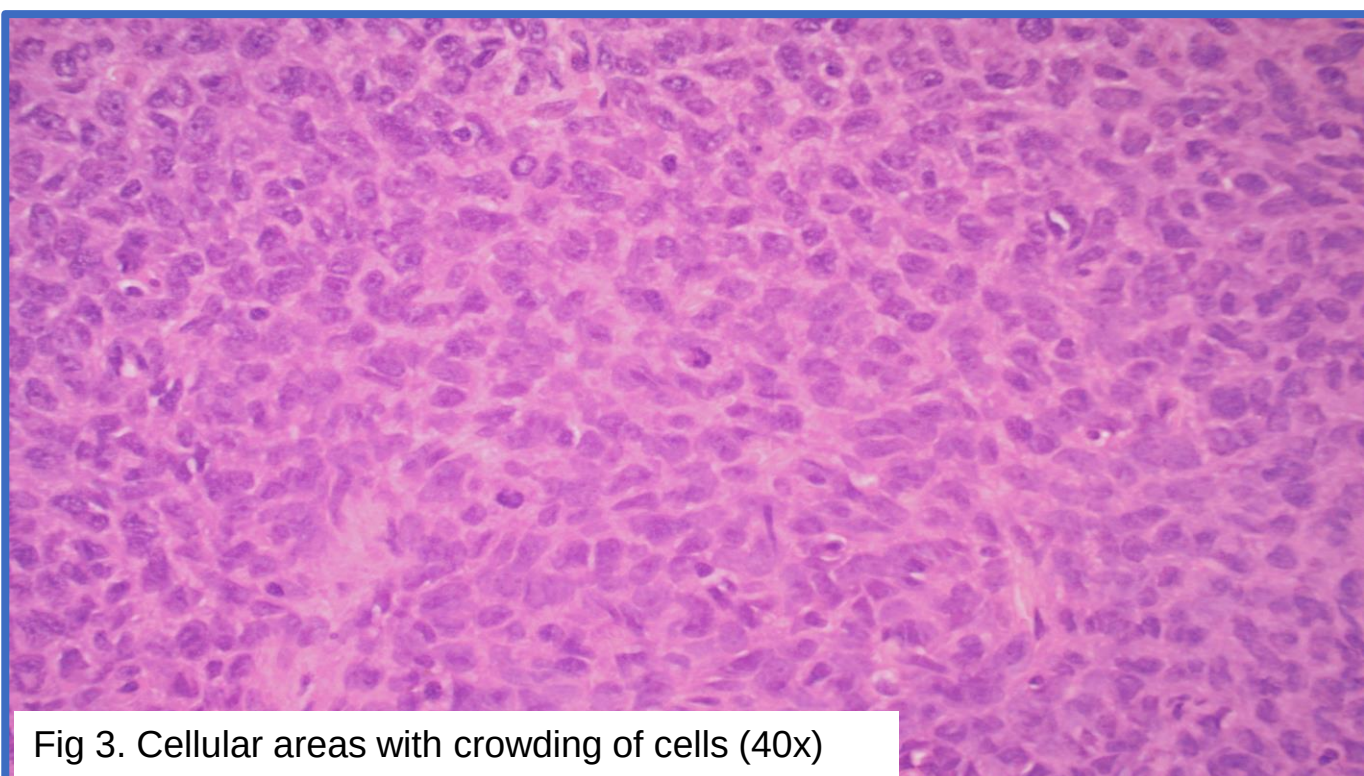
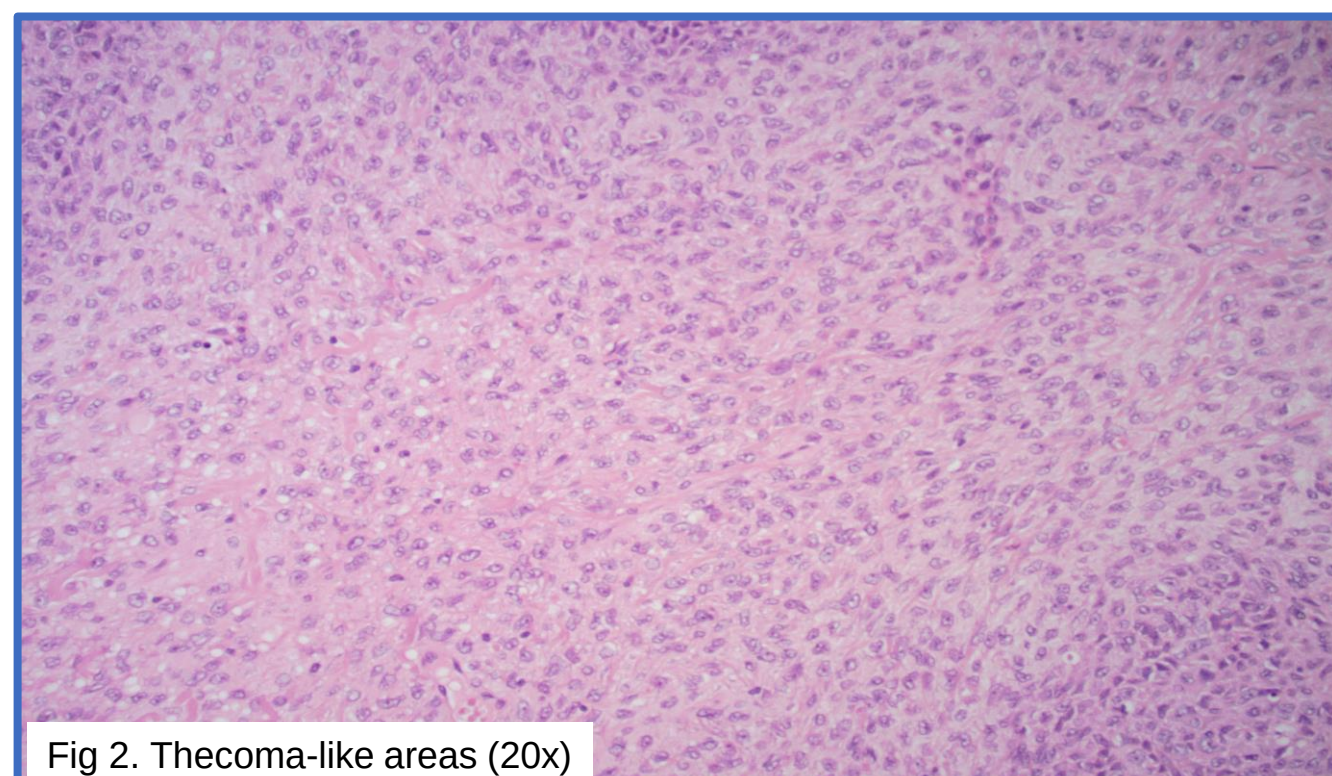
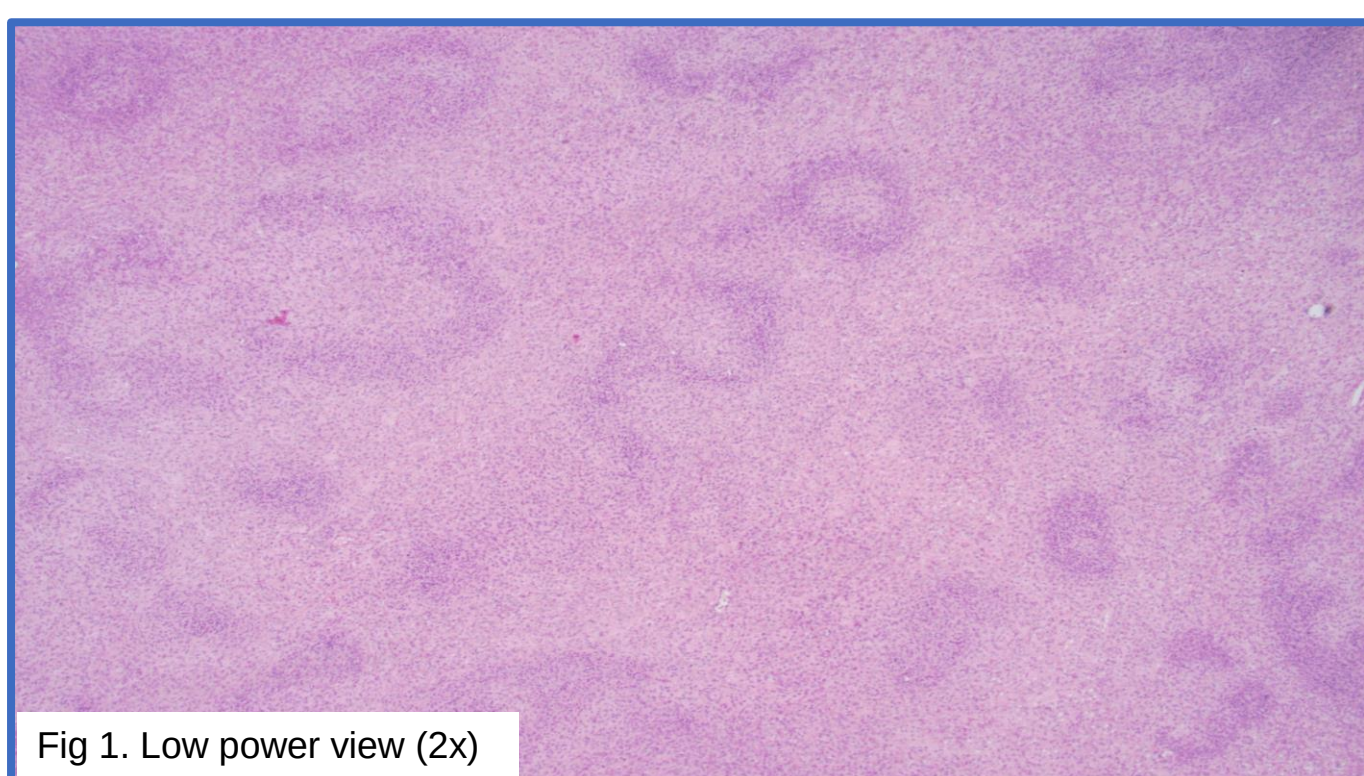
- Adult granulosa cell tumours can display various histological patterns resembling a variety of other tumours.
- Tumours with prominent thecoma-like morphology are a potential diagnostic pitfall and we present one of such case.

Case details

- 60-year-old female presented with abdominal bloating; CT scan showed a cystic solid 12cm adnexal mass arising from left ovary.
- She underwent a total abdominal hysterectomy with bilateral salpingo-oophorectomy.

Histopathological examination

- **Gross examination:** 120 mm ovarian mass with intact surface. Cut surface was predominantly solid with pale tan to yellow-coloured areas.
- **Microscopic examination:**
 - ❖ Well demarcated tumour composed of cells arranged in sheet like and vague nodular areas (**Fig.1**).
 - ❖ Prominent thecoma-like areas were present with polygonal cells containing moderate amounts of pale cytoplasm (**Fig.2**).
 - ❖ Cellular areas with crowding of cells showing irregular nuclei, scant cytoplasm and mitotic activity up to 6-7/10hpf were also seen (**Fig.3**).



Ancillary investigations

- **Special stains:** Reticulin stain showed loss of peri-cellular staining pattern in areas (**Fig.4**).
- **Immunohistochemistry:** Lesional cells were positive for Inhibin and negative for EMA and AE 1/3.
- **Molecular:** FOXL2 c.402C>G p.(Cys134Trp) mutation was detected.
- **Final diagnosis:** Adult granulosa cell tumour with prominent thecoma-like morphology.

Discussion

Ovarian tumours with thecoma-like morphology need a thorough light microscopic examination, as thecomas are uncommon if strict criteria are used. Adult granulosa cell tumours can have prominent thecoma-like areas and careful search for cells showing more typical granulosa cell morphology with use of reticulin stain and appropriate molecular tests is helpful in reaching the right diagnosis. Luteinized granulosa cell tumours have more abundant eosinophilic cytoplasm and often a myxoid stroma which was not seen in this case.

Take home message

- Tumours with thecoma-like morphology need careful morphological evaluation to avoid misdiagnosis.
- Reticulin stain remains a useful tool and FOXL2 mutation analysis must be considered to exclude adult granulosa cell tumour.

References

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2. Al-Agha OM, Huwait HF, Chow C, Yang W, Senz J, Kalloger SE, Huntsman DG, Young RH, Gilks CB. FOXL2 is a sensitive and specific marker for sex cord-stromal tumors of the ovary. Am J Surg Pathol. 2011 Apr;35(4):484-94