Mixed Endometrioid Adenocarcinoma and Müllerian Adenosarcoma of the Uterus – a case report and review of the literature

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BACKGROUND

- Mixed epithelial and mesenchymal tumours of the uterine corpus are composed of a mixture of epithelial and mesenchymal components.
- The classification of these tumours depends on whether each component is benign or malignant.
- The two most encountered tumours are carcinosarcoma and adenosarcoma of the uterine corpus.
- According to the WHO classification, **carcinosarcoma** is defined as a biphasic tumour composed of high-grade carcinomatous and sarcomatous components; while **adenosarcoma** is a biphasic neoplasm composed of a benign epithelial component and a malignant stromal component.

CASE PRESENTATION

- We present the interesting case of a 59-year-old female who presented with post-menopausal bleeding.

IMAGING Modality	FINDINGS
Ultrasound	thickened and cystic endometrium 26mm
Hysteroscopy	Irregular polyp
CT (Thorax, Abdomen, Pelvis)*	a well defined low attenuation area within the uterus (? Primary tumour or a second benign lesion)
* MRI was not done as the patient was claustrophobic	

ENDOMETRIAL BIOPSY

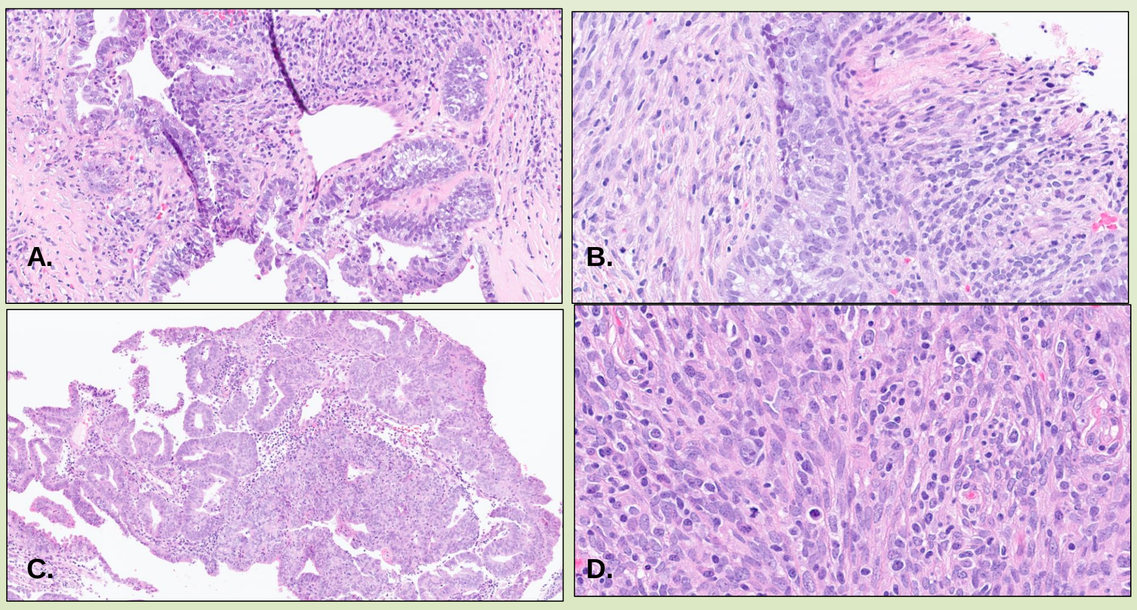

FIGURE 1: A&B. H&E sections show biphasic tumour composed of epithelial glandular component and non-specific stromal sarcomatous component. **C.** H&E section show malignant glandular adenocarcinoma. **D.** H&E section shows malignant sarcoma with prominent mitoses.

Biopsy diagnosis: Carcinosarcoma, by definition FIGO Grade 3.
She underwent Total hysterectomy, bilateral salpingo-oophorectomy and bilateral pelvic lymph node dissection.

Macroscopy: 6.2cm fleshy cream tumour arising from the endometrium and protruding into the endometrial cavity. There is inner half myometrial invasion.

HYSTERECTOMY (RESECTION SPECIMEN)

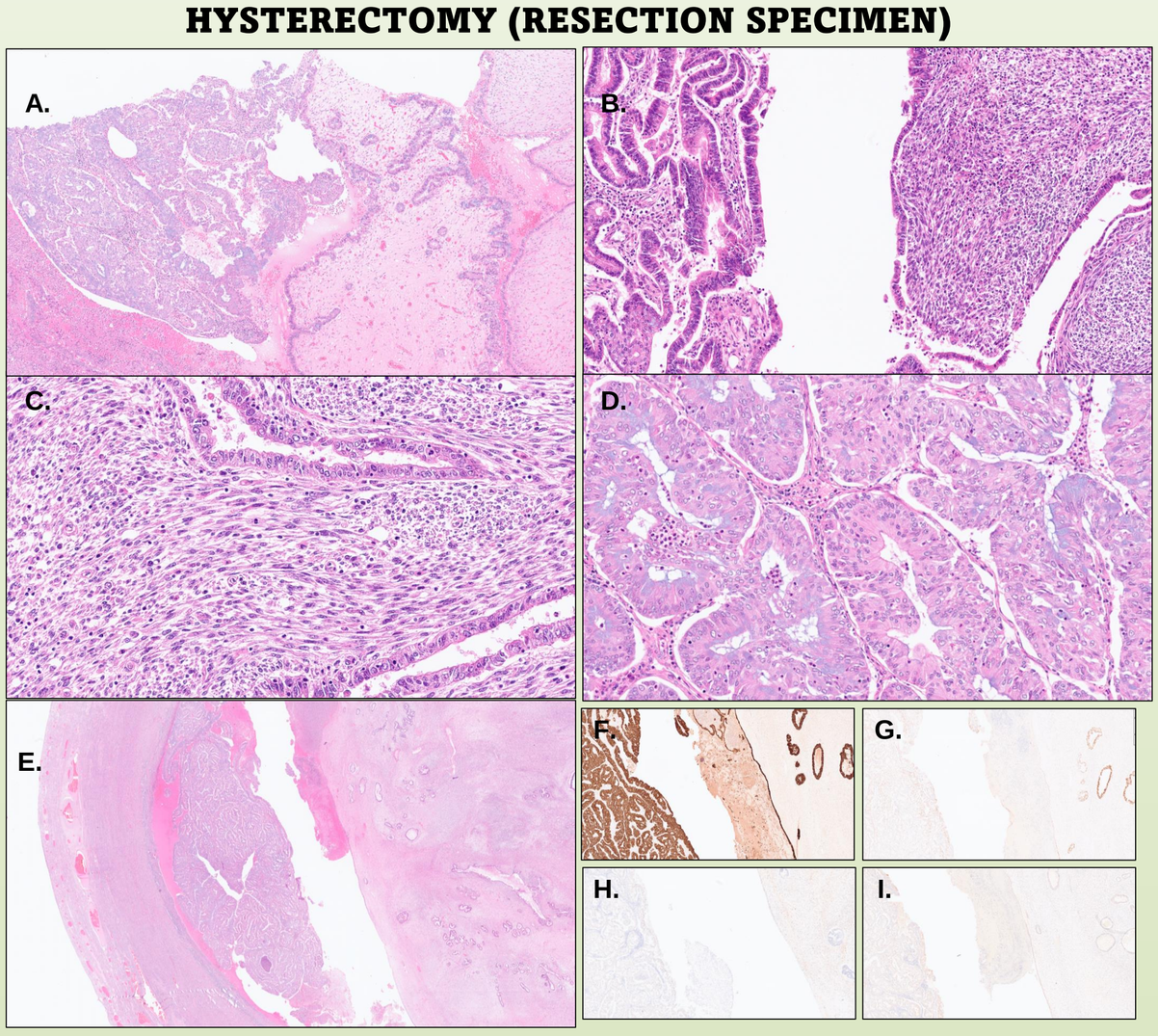

FIGURE 2: A - E. H&E sections show polypoid biphasic endometrial tumour with 2 components. **Component 1**: FIGO grade 2 endometrioid adenocarcinoma with areas of mucinous metaplasia. **Component 2**: Phyllodes-like low grade stromal component with atypical lining and entrapped atypical endometrial glands. Negative for high grade cytological atypia or necrosis. Mitotic activity is infrequent. **F.** CK8/18 positive. **G.** Estrogen Receptor (ER) weak positive**. H.** P53 'wild-type' staining. **I.** P16 is negative. Additional immunohistochemistry (not pictured above): stromal component is CD10 positive, CD34 and desmin focally positive.

Final Diagnosis: Mixed endometrioid adenocarcinoma and mullerian adenosarcoma of the uterus, FIGO stage IA.
Follow-up: Patient received post-operative brachytherapy. Currently (20 months later) well, recurrence-free.

LITERATURE REVIEW

- Mixed endometrioid adenocarcinoma and müllerian adenosarcoma of the uterus is an uncommon recently described entity.
- In 2021, El Hallani S and Arora R et al published the largest series of these tumours (26 cases).
  - Majority (22 cases) occurred in the uterus with few cases arising in the ovary and in the pelvis.
  - Majority (20 cases) were FIGO stage 1.
  - Tumor size ranged from 2 to 25 cm (median: 7.9 cm).
  - The sarcomatous component was of low grade in 18 and high grade.
  - Almost all (25) carcinomas were endometrioid in type (23 FIGO grade 1; 3 FIGO grade 2). Only 1 case was dedifferentiated carcinoma with FIGO grade 1 endometrioid adenocarcinoma component.
- Older studies in the literature suggested that theses tumours represent two separate neoplasms: either an unusual form of carcinosarcoma or adenocarcinoma arising from the epithelial component of the adenosarcoma.
- Next-generation sequencing in 2 tumors identified similar molecular abnormalities in the sarcomatous and carcinomatous components supporting a clonal relationship.
- Endometrioid adenocarcinomas that arise in close spatial association with Müllerian adenosarcoma appear to be clonally related to the sarcoma.
- Unlike carcinosarcomas, these tumors are usually early stage at presentation.
- The prognosis appears to be driven by the sarcomatous component.

LEARNING POINTS

- Mixed endometrioid adenocarcinoma and mullerian adenosarcoma tumours have a better prognosis and should be distinguished from carcinosarcomas, dedifferentiated endometrial carcinomas, and corded and hyalinized endometrioid carcinomas.
- Cellular pathology is an ever-evolving science. Keeping up-to-date with the latest developments aids in promoting diagnostic skills on an individual level.
- Despite the major advances in immunohistochemistry and molecular techniques, competence in H&E morphological assessment remains crucial to reach the correct diagnosis.

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