The cause of the problem is not always as it seems: Atypical presentation of gynaecological malignancies in an acute gynaecology setting

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Transvaginal ultrasound remains the primary investigation for gynaecological complaints. Accurate diagnosis relies on both the skill of the operator and their ability to correlate the imaging findings with symptoms and history. When the clinical presentation contradicts the imaging findings, this can precede a delay in correct diagnosis. We present three cases in which the clinical picture and suspected diagnosis did not concur with the imaging findings. In each case, a malignancy was the resulting diagnosis.

### Squamous cell carcinoma of the cervix

**Case History and Images**

A 36-year-old patient attended at 6 weeks postpartum with heavy vaginal bleeding. A scan performed to exclude retained placenta demonstrated a thin and regular endometrium. However assessment of the cervix revealed an irregular, hypoechoic, vascular lesion, which was subsequently confirmed by MRI. The resulting diagnosis was stage IIB squamous cell carcinoma arising from surface CIN 3.

**Key Learning Points**

- Ultrasound visualisation of malignant cervical pathology within the general UK population is rare due to the success of the NHS Cervical Screening Programme.
- Squamous cell carcinoma (SCC) is typically hypoechoic and adenocarcinoma (AC) typically isoechoic to the surrounding cervical parenchyma. Almost all cases of cervical neoplasia are found to be hypervascular with colour Doppler.
- All gynaecological ultrasound examinations should include a dedicated cervical assessment which includes interrogation with colour Doppler.

### Serous adenocarcinoma of the ovary

**Case History and Images**

A 52 year-old patient attended with severe, lower abdominal pain, pyrexia and raised inflammatory markers. Both CT and ultrasound reported a complex, hypervascular lesion within the right adnexa. A tubo-ovarian abscess (TOA) was suspected and antibiotic therapy commenced. Follow up scans failed to demonstrate improvement of the TOA and her CA-125 was subsequently found to be raised to 429U/ml. A further ultrasound scan raised suspicion of ovarian malignancy and the lesion was excised. Histology revealed high grade serous adenocarcinoma of the ovary, stage 1Ci.

**Key Learning Points**

- Ovarian cancers can induce pyrexia and an inflammatory response through a poorly understood process called neoplastic fever.
- There is considerable crossover of the imaging features of infective and neoplastic masses within the pelvis.
- Ovarian malignancy should be considered as a differential diagnosis for a complex pelvic mass, even in cases with septic presentation.

### Endometroid endometrial adenocarcinoma

**Case History and Images**

A 66-year-old patient attended with a history of light post-menopausal bleeding (PMB). She had been seen in a PMB clinic two weeks previously, where a scan showed a thin endometrium of 2.2mm. She was diagnosed with atrophic vaginitis and prescribed a course of vaginal oestrogen. A repeat scan on our unit demonstrated a thin fundal endometrium of 1.4mm but a vascular mass originating in the lower cavity. The mass was seen invading the anterior myometrium and was subsequently diagnosed as grade 3 endometroid endometrial adenocarcinoma.

**Key Learning Points**

- Most endometrial malignancies occur within the uterine fundus or body but approx. 3-6% occur in the lower uterine segment.
- Cancers in the lower uterus can be missed due to their low prevalence and artefact overlying the lower segment unless dedicated views are sought.
- The endometrium must be assessed along its entire length with the endometrium perpendicular to the ultrasound beam. Any disruption should prompt further investigation.