Pseudo-Meigs’ syndrome associated with struma ovarii

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DESCRIPTION
A 55-year-old woman presented to a gynaecologist with abdominal pain and postmenopausal bleeding. Her medical history included nothing of particular note. Physical examination revealed a mild abdominal distension and a palpable mass in the lower abdomen. The patient’s serum CA-125 level was 120 U/ml (normal value <30 U/ml), while the carcinoembryonic antigen, α-fetoprotein, CA-199, CA-153 and thyroid stimulating hormone levels were within the normal range. Gynaecological vaginal ultrasound showed mild ascites in her pelvis and an echogenic solid mass in the right ovary. Endometrial double wall thickness was measured as 1 cm.

On abdominal CT, non-enhanced imaging showed a hyperdense mass in the enlarged right ovary and mild abdominal ascites measuring 3 cm in diameter (figure 1). Contrast-enhanced CT images showed the heterogeneous hyperdense mass during the arterial and portal venous phases of enhancement. This mass did not have any fatty tissue. The central portion of this mass was seen to be relatively hypodense according to the peripheral areas of the lesion (figure 2). On MRI, intermediate signals on T1-weighted images and hyperintensity on T2-weighted images were observed in this mass (figure 3). Surgery was performed in this patient due to findings of malignancy. The histopathological diagnosis was reported as struma ovarii.

Struma ovarii is a monodermal variant of ovarian teratoma which predominantly contains thyroid tissue (greater than 50%).1 Pseudo-Meigs’ syndrome is often characterised by pleural effusion and/or ascites caused by a pelvic tumour other than an ovarian fibroma. Reported ovarian tumours responsible for pseudo-Meigs’ syndrome are struma ovarii tumours, mucinous or serous cystadenomas, germ cell tumours and ovarian metastasis from colon and stomach cancers.2 If an ovarian solid mass is seen to be similar to thyroid tissue as both hyperechoic on ultrasound and hyperdense on unenhanced CT, struma ovarii should be considered in the differential diagnosis.

Figure 1  Unenhanced CT image showing the hyperdense mass measuring 3 cm in diameter in the enlarged right ovary (arrow).

Figure 2  Contrast-enhanced CT images showing the heterogeneous hyperdense mass (arrows) during the arterial (A) and portal venous (B) phases of enhancement. The central portion of this mass is seen to be relatively hypodense according to the peripheral areas of the lesion.
Learning points

▸ If an ovarian solid mass is seen to be similar to thyroid tissue as both hyperechoic on ultrasound and hyperdense on unenhanced CT, struma ovarii should be considered in the differential diagnosis.

▸ Pseudo-Meigs' syndrome is often characterised by pleural effusion and/or ascites caused by a pelvic tumour other than an ovarian fibroma.

Figure 3  (A) Coronal T2-weighted HASTE image showing mild ascites in both the perihilar and perisplenic spaces (arrows). (B) Coronal fat-suppressed T2-weighted image showing the hyperintense right ovarian mass (arrow) and mild ascites in the pelvis (double arrows). HASTE, half-fourier acquisition single-shot turbo spin-echo.

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REFERENCES
