CASE REPORT

Mesenteric lymphangioma mimicking a cystic ovarian mass on imaging

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SUMMARY

Pelvic cystic masses are frequently observed in women. Most lesions are benign and of ovarian origin. However, non-ovarian lesions can be easily confused with cystic ovarian masses on imaging, which hampers diagnostic and therapeutic management. In this report, a rare case of mesenteric lymphangioma mimicking an ovarian cystic mass, discovered as an incidental finding on orthopaedic MRI in an adult female, is presented. The report highlights the sometimes difficult diagnostic process of pelvic cystic masses, due to an extensive differential diagnosis and the fact that imaging is often inconclusive. Even though most cystic masses are of ovarian origin, non-ovarian causes can mimic ovarian masses and should be considered as differential diagnoses. Surgical exploration may be necessary to exclude malignant causes.

BACKGROUND

Pelvic cystic masses are frequently observed in women. Although most of these cystic masses are of ovarian origin, the differential diagnosis is very extensive. Lesions can be malignant; however, the majority of lesions are benign, including functional cysts, pelvic inflammatory disease, cystadenomas, endometriomas, fibromas and cystic teratomas.

Non-ovarian tumours such as: omental cysts, mesenteric cysts, mucocoele of the appendix, peritoneal inclusion cysts, haemangiomas and cystic lymphangiomas, can easily be confused with ovarian cystic masses on imaging.¹

We present a case of mesenteric lymphangioma mimicking an ovarian cystic mass discovered as an incidental finding on orthopaedic MRI in an adult female.

CASE PRESENTATION

A 48-year-old woman was referred to our outpatient clinic, with an incidental finding of a multicystic lesion on pelvic MRI. She was referred by the general practitioner to the orthopaedic surgeon, for pain located in the region of the m. gluteus maximus. On MRI, no orthopaedic abnormalities were shown, however, a multicystic mass in the pelvis was seen (figure 1).

The patient had no gynaecological complaints. Apart from a vaginal hysterectomy for menstrual disorder, she had no relevant medical history. Family history was negative for endometrial, ovarian and breast cancer, but positive for colon cancer and oesophagus cancer.

INVESTIGATIONS

The initial MRI investigation demonstrated a multicystic mass in the pelvis, presumably originating from one of the ovaries (figure 1). No abnormalities were observed during physical examination. There was no inguinal and no supraclavicular lymphadenopathy, nor was there a palpable abdominal mass. The vaginal apex was smooth and appeared normal on inspection. Transvaginal ultrasound confirmed the MRI results, and showed a multicystic lesion of 8.0×4.5×5.0 cm, without solid or papillary structures, most likely of adnexal origin. The ovaries could not be visualised separately, and there were no signs of ascites. Additional abdominal CT was performed in order to evaluate the exact localisation of the mass and its relation to the surrounding organs, and to exclude other abnormalities. Extensive mesenteric abnormalities were present, particularly in the right umbilical region, with thickening of the intestinal walls of the terminal ileum and ascending colon. The cystic mass in the pelvis seemed to originate from the left ovary. Serum level of CA-125 was normal (9.9 ku/L), serum level of CEA was only slightly elevated (6.3 µu/L). The radiologist, under ultrasound guidance, performed a diagnostic biopsy of the cystic mass in the umbilical region, and unclear yellowish fluid was aspirated (figure 2A, B). Cytological analysis of the obtained fluid was not suspicious for a malignancy.

Figure 1 Orthopaedic MRI showing a multicystic mass in the pelvis, presumably originating from one of the ovaries.

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Figure 2 Abdominal ultrasound guidance for diagnostic biopsy showing the multicystic mass in the umbilical region (A and B).

TREATMENT

Because an ovarian origin was suspected and imaging as well as the cytological analysis were inconclusive, ovarian carcinoma could not be excluded. Hence, a diagnostic laparoscopy was performed. At laparoscopy, a multicystic mass originating from the mesentery of the small bowel was seen (figure 3A, B). The cystic tumour covered a large section of the ileum (90 cm), with some parts appearing more solid. Both ovaries were identified and appeared macroscopically normal, as did the appendix. The abnormality had adherence to neither the vaginal wall nor peritoneum, nor to the omentum. The gastrointestinal surgeon was consulted, who decided to convert to laparotomy in order to extend the exploration and, subsequently, a partial small bowel resection with primary end-to-end anastomosis was performed.

There were no complications during the procedure and post-operative recovery was uneventful. Histological examination showed diffuse localisation of the lymphangioma without signs of malignancy.

OUTCOME AND FOLLOW-UP

Because of the benign character of the mass and its complete removal, further gynaecological follow-up was not necessary. Unfortunately, but as expected, the initial complaint of pain located in the gluteus region persisted after surgery and, therefore, the patient was referred back to the department of orthopaedics for further analysis.

DISCUSSION

Incidental findings on CT or MRI are not uncommon, especially ovarian cystic masses. One study, on 3448 women who underwent abdominal-pelvic CT scans, showed adnexal

Figure 3 At laparoscopy, a multicystic mass originating from the mesentery of the small bowel was seen (A and B). It covered 90 cm of the ileum; both ovaries were identified and appeared macroscopically normal, as did the appendix. The abnormality had adherence to neither the vaginal wall nor peritoneum, nor to the omentum.

incidentalomas in 5% of cases.² Our patient did not experience abdominal complaints—the mass was accidentally found on MRI performed for a different reason. Most incidental findings are of benign origin; however, malignant causes should be excluded.^{2–3} Characteristics indicating a malignant tumour include enhancing mural nodules, thick septa, ascites, peritoneal implants and para-aortic lymphadenopathy.³

The differential diagnosis of cystic masses in the pelvic region is very extensive, ranging from gynaecological to non-gynaecological and from benign to malignant. In this case, after physical examination and additional imaging, the tumour was still supposed to be of ovarian origin. In patients with an ovarian malignancy, CA-125 is elevated in 50–90% of patients, depending on the cancer stage.⁴ Even though CA-125 and CEA were not clearly elevated in the current case, a malignancy could not be excluded.

The mesenteric involvement as shown on imaging could be attributed to tumour growth advancing in the mesentery and intestinal loops, peritoneal metastasis or the mesentery as primary origin of the tumour.

Mesenteric lymphangiomas of the small bowel account for less than 1% of all lymphangiomas.⁵ It is extremely rare in adulthood; 80–90% of patients are diagnosed within the first years of life. Lymphangiomas are benign cystic lesions most commonly seen in children, and characterised by proliferation of lymphatic vessels.⁶ The exact aetiology is unknown; however,

they appear to result from congenital malformation that causes sequestration of lymphatic vessels during the embryonic period.^{6,7} Factors suggested to influence secondary formation of this lymphatic tumour include inflammation, abdominal surgery, radiation and lymphatic obstruction.⁵ Clinical manifestation varies widely; symptoms that can occur include abdominal distension, palpable abdominal mass and secondary abdominal complications such as volvulus or intussusception. However, most patients are asymptomatic. Therefore, mesenteric lymphangiomas are often an incidental finding at surgery or on imaging.^{5,6} Three histological types of lymphangioma can be distinguished: capillary, cavernous and cystic. Cystic lymphangiomas are typified by thin-walled dilated lymphatic spaces of various sizes, divided by septae. The fluid within the cysts is usually chylous, and has low diagnostic value. Lymphangiomas can induce reactive or inflammatory responses in the surrounding tissue.^{5,6} Sometimes, differentiation from malignant tumours can be difficult.⁸

Definitive preoperative diagnosis is rarely performed, however, imaging can provide additional information. Ultrasound can show the typical cystic appearance of the lesions, the so called honeycomb pattern. However, this classic appearance is found in many cystic lesions and is therefore not specific.⁹ On CT imaging, lymphangiomas present as unilocular or multilocular cystic masses with wall enhancement after contrast administration.¹⁰ It can help determine the exact localisation more accurately. MRI can be useful in the differentiation from other cystic tumours. However, definitive diagnosis is based on histopathology and immunochemistry. Lymphangiomas stain positive for cytokeratins, and double staining with Prox1 and CD31 is the most reliable method for diagnosis.⁹

Even though lymphangiomas are benign lesions, they can, though rarely, cause life-threatening complications such as volvulus or acute bowel obstruction. Because of this, complete removal is the recommended therapy to prevent recurrence, even when the patient is asymptomatic.⁶ Other therapies such as drainage and sclerotherapy have been suggested, however, they bring high adjuvant risks and the risk of recurrence is high. Prognosis after radical removal is considered to be very good, with minimal risk of recurrence.⁹

In our case, the mass was presumed to be of ovarian origin until surgery was performed. In retrospect, the existing mesenteric abnormalities in the umbilical region were already visible at a previous CT scan performed in 2005. The lower abdomen and pelvic region were not scanned at the time. Surgery was performed because ovarian malignancy could not be excluded. When the mass was found to originate from the mesentery of the ileum, the decision was made to perform a small bowel resection. Because radical removal is the recommended therapy for cystic lymphangioma, in retrospect, this was the right decision.

This case shows that the diagnostic process of pelvic cystic masses can be very difficult, due to an extensive differential diagnosis and the fact that imaging is often inconclusive. Even though most cystic masses are of ovarian origin, there are non-ovarian causes that can mimic ovarian masses, which should therefore be considered as differential diagnoses. Surgical exploration can be necessary to exclude malignant causes.

Learning points

- ▶ Incidentalomas on MRI are not uncommon.
- ▶ Pelvic cystic masses are frequently observed in women, differential diagnosis is very extensive.
- ▶ Ovarian and non-ovarian causes should both be considered.
- ▶ Non-ovarian lesions such as cystic lymphangioma can be easily confused with cystic ovarian masses on imaging, which hampers diagnostic and therapeutic management.
- ▶ Surgical exploration may be necessary to exclude malignant causes.

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