

Unreported location and presentation for a parasitic ovarian dermoid cyst in an indirect inguinal hernia

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Abstract Extragenadal mature cystic teratomas (dermoid cysts) have been reported occasionally, with the most common site being the omentum. We report a rare case of a parasitic dermoid cyst that was incidentally found in an indirect inguinal hernia sac in a 66-year-old woman. The right ovary was absent from its proper anatomical location. Histopathologic study revealed a mature cystic teratoma with viable ovarian tissue. These findings suggested auto-amputation of the ovary either by inflammation or torsion.

Keywords Dermoid cyst extragenadal · Indirect inguinal hernia

Introduction

Mature cystic teratomas (dermoid cysts) occur most commonly in the ovary, but cases of cystic teratomas of extragenadal origins have also been described. The most common extragenadal site of these parasitic dermoid cysts has been the omentum [1]. We report a rare case of a parasitic benign cystic teratoma that was incidentally found in a direct inguinal hernia sac in a 66-year-old woman. A differential diagnosis of masses in the inguinal region is discussed and includes not only hernias, but also

gynaecologic and vascular lesions [2, 3]. The malignant potential of the cyst warrants awareness.

Case report

A 66-year-old female was admitted with a slowly growing abdominal mass and occasional pain for 3 years in the right groin. There was no history of trauma to the abdomen, bladder or bowel dysfunction, or any gynaecological problem. On abdominal examination, there was a mass of 15 × 10 cm in size situated in the right inguinal region. The mass was smooth, non-tender, partially reducible, mobile in all directions and had well-defined margins. Impulse on coughing was positive. There was no free fluid or other intra-abdominal lump. There was a firm, mobile mass of about 9 × 7 cm in size, which was felt to be lying separately in the hernia sac. Per-rectal and systemic examination were normal. Haematological, biochemical investigations, and abdominal and chest radiography were normal. Ultrasound revealed a large cystic mass of homogenous echotexture with multiple calcific density contents. Computed tomography (CT) showed a hernia in the right lower abdomen containing the ileo-caecal junction and a mass in the hernia sac, probably a dermoid arising from the right ovary (Fig. 1).

On the operating table, it was found to be a right-sided indirect inguinal hernia containing omentum, caecum and an ovarian cyst. The right ovary was not visualised (Figs. 2, 3 and 4).

The ovarian cyst was excised in toto along with a part of the omentum. Total hysterectomy with salpingo-oophorectomy was done considering the fact that the patient had attained menopause, the absence of the right ovary, the possibility of similar lesions in the left ovary and the rare

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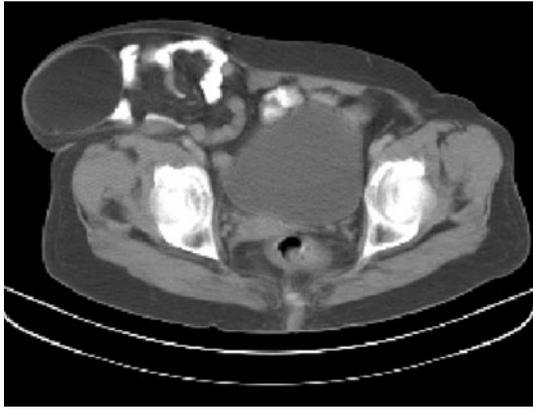


Fig. 1 Computed tomography (CT) scan showing the ovarian dermoid in the hernial sac

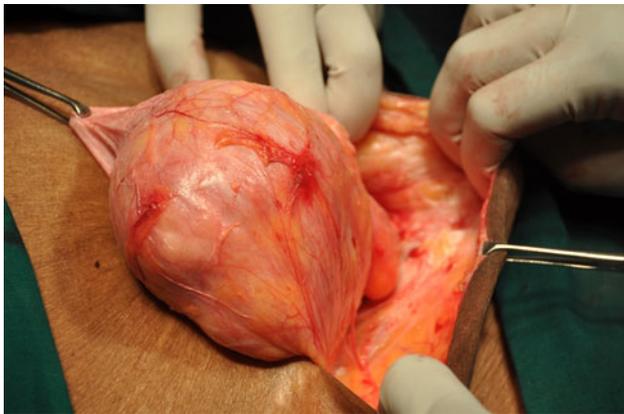


Fig. 2 Hernial sac containing the dermoid cyst of the ovary

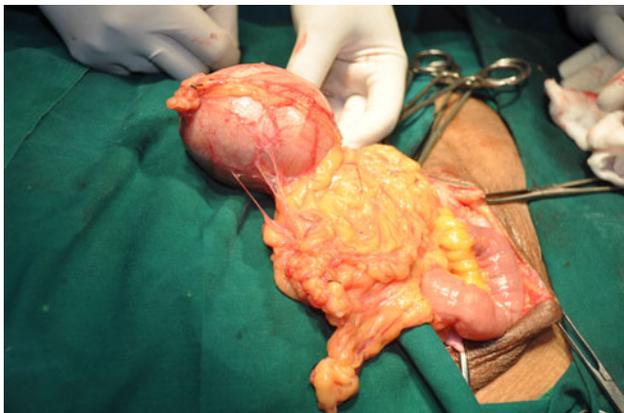


Fig. 3 Hernia containing omentum, the ileo-caecal junction and an ovarian cyst

chance of the ovarian cyst turning out to be malignant (Fig. 5).

The hernia defect was repaired with meshplasty and redundant skin was excised. The post-operative period was uneventful. The urinary catheter was removed on the

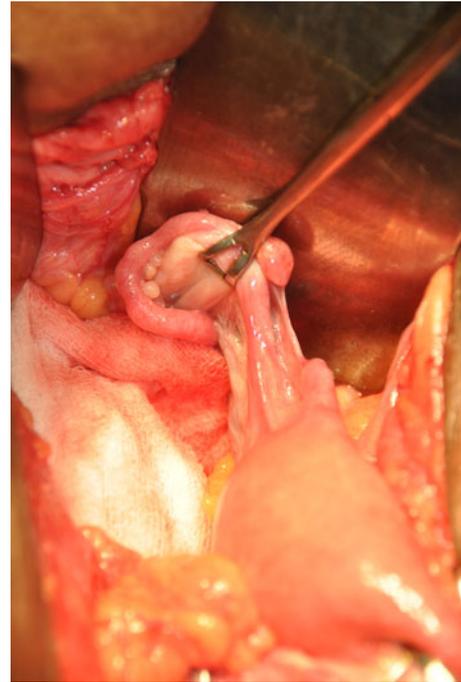


Fig. 4 Right-sided fallopian tube showing the absence of the ovary

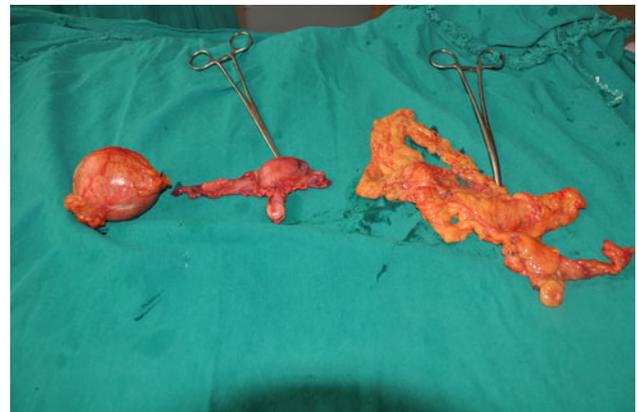


Fig. 5 The resected ovarian cyst, hysterectomy specimen and omentum

second day. The patient was allowed food orally on the second post-operative day after bowel sounds were heard. She was discharged on the sixth post-operative day in satisfactory condition. Intravenous antibiotics were continued for 4 days, followed by oral antibiotics.

Histopathology of the cyst wall showed epidermal lining with lamellated keratin in the lumen and a prominent granular layer. In addition, the wall also showed osteoid fibro-collagenous tissue, bone formation and cystic spaces lined by pseudo-stratified columnar epithelium.

Discussion

Dermoid cysts occur most commonly in the ovary, but cases of extragonadal origins have also been described [4]. The most common extragonadal site of these parasitic dermoid cysts has been the omentum [1, 5, 6]. There have been three proposed theories on the aetiology of these extragonadal sites: (1) primary dermoids originating from displaced germ cells; (2) dermoids developing in a supernumerary ovary; and (3) auto-amputation of an ovarian dermoid and re-implantation into an extragonadal site [7]. Of the three proposed aetiologies of such cysts, torsion of a pre-existing dermoid, leading to auto-amputation and subsequent re-implantation, is most likely the preceding event.

J.K. Thornton first proposed the third possible mechanism in 1881. Mature teratomas are among the most commonly found ovarian tumours. The incidence of mature teratomas ranges between 5 and 25% of all ovarian neoplasms [1], with 13.7% of these tumours being bilateral [8]. Torsion of the pedicle is reported to be the most frequent complication of ovarian teratomas, occurring in 16.1% of cases [1]. Torsion interferes with the blood supply of the involved organ. Venous congestion and aseptic inflammation of the tumour wall may, thus, result. In acute torsion, the tumour undergoes necrosis and subsequent atrophy due to ischaemia. In sub-acute or chronic torsion, the tumour may become adherent to adjacent structures with a new collateral circulation formed. Infrequently, the tumour completely detaches from its pedicle, thus, resulting in a parasitic dermoid cyst [9, 10]. Parasitic cystic teratomas, at all locations, are rare, with their incidence reported as being 0.4% of all ovarian teratomas [1]. The omentum, because of its special role in the intra-abdominal inflammation defence process, is probably the main location for secondary implantation of the tumour. The parasitic dermoid described in this case report had no apparent feeding vessel, which could make it a candidate for a cyst auto-amputated from the ovary as a result of torsion [7].

The clinical presentation of the reported parasitic teratomas of the Pouch of Douglas [11] tends to mimic those of omental teratomas, namely, abdominal pain. The radiation to the patient's back is likely from lumbrosacral neuropathy, due to compression of the lumbrosacral plexus. Mature cystic teratoma may be complicated by torsion, rupture and malignant change [12], but is rarely complicated by infection. Infection occurs in approximately 1% of mature cystic teratomas [13]. There are data to suggest a

genetic predisposition towards dermoid cysts which merits further exploration [14]. Both ultrasonography with colour flow Doppler ultrasonography and CT are helpful in the diagnosis of dermoid tumours, but the correct diagnosis of omental localization is extremely difficult [15]. A literature search did not reveal such presentation of a parasitic dermoid in an indirect inguinal hernia sac in an elderly female.

Conflict of interest Nil.

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