Case report

A 30-year-old dermoid cyst

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Abstract:

Mature cystic teratoma (MCT) is the most common tumour of the ovary and includes at least two well-differentiated germ cell layers. The incidence is higher in reproductive age group and rarely among postmenopausal age women. It is benign condition however associated with multiple complication such as torsion, ruptured and chemical peritonitis. As it is rare among postmenopausal age group, it can be presented as chronic ovarian mass with expected complication and possibility of malignant transformation. Thorough assessment with adjunct of radiological imaging may assist in diagnosis and further management. Radiological imaging modalities were sensitive and sensitive in diagnosis of MCT however there were low specificity in detection of complication. Management of MCT in postmenopausal women mandate thorough evaluation considering the risk of malignant transformation and associated complications.

Keywords: *Mature cystic teratoma, dermoid cyst; postmenopausal ovarian tumour; chemical peritonitis*

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Introduction:

Mature cystic teratoma (MCT), which is known as a dermoid cyst, is a common ovarian germ cell tumour that constitutes ~10–20% of all ovarian tumours.[1]It can occur in postmenopausal group as a chronic mature teratoma which may associated with complication such as torsion, rupture and chemical peritonitis. Ovarian MCT has a wide spectrum of radiological presentation and understanding the radiological sign with clinical presentation can permit a more accurate diagnosis.This case describes the oldest dermoid cyst that we have encountered in our clinical practice and the patient's complications that were associated with the cyst.

Case History:

A 70-year-old, post-menopausal female, Para 3 presented with a mass in her abdomen, which had been present for almost 30 years. The patient decided to seek treatment due to her perception that the mass had increased in size. The mass was painless and not associated with other urinary or bowel symptoms. There is no family history of malignancy.

Upon examination, there was large, firm and restricted mobility mass with a regular and smooth surface measuring 20x20cm. There was no ascites or hepatosplenomegaly. No lymph nodes were palpable, and other examinations were unremarkable.

A transabdominal ultrasound scan showed an atrophic

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uterus with a large unilateral ovarian tumour. The tumour had a regular outline with mixed solid and cystic component within the mass. No papillary projection seen. There was minimal fluid collection was seen at the hepatorenal angle.

Computed tomography (CT) of the thorax, abdomen and pelvis was done. There was a huge unilateral ovarian mass measuring 12.3cm x 20.9cm x 19.3cm seen occupying the pelvic cavity and extends until upper abdomen with scattered wall calcifications. The tumour content appeared to comprise fat and a soft-tissue component. A single dentiform-shaped calcification with a focal defect was seen, which is suggestive of a rupture, with hypodense collection adjacent to it (Figure 1). Multiple well-defined rounded peritoneal lesions were seen scattered in the abdominal and pelvic cavity with fat composition and surrounded by thin peripheral rim calcification. The tumour markers were normal.

The patient underwent an exploratory laparotomy; intra-operatively, the tumour arising from the left ovary was seen densely adhered to the peritoneal layer and twisted twice at its pedicle. The tumour had an irregular surface (Figure 2, left) and was seen ruptured at multiple thinned areas with solidified cheesy sebaceous material and hair at its surface. Multiple pockets containing liquefied sebaceous material were seen within the peritoneal cavity. Multiple peritoneal nodules of varying sizes (Figure 2, right) were in the peritoneal cavity. Liver, spleen, and bowel were normal. Total abdominal hysterectomy, bilateral salpingo-oophorectomy and omentectomy and thorough peritoneal wash out was done

The histopathological evaluation of the specimen showed MCT with an extensive fibrotic and calcified wall. The cyst wall is line by stratified squamous epithelium composed of hair shaft and some cartilage tissue. No immature component or malignant transformation was identified. The multiple peritoneal nodules showed fibrotic and calcified cyst walls with denuded epithelial linings. The cytological evaluation of peritoneal washings and the rest of the specimen were normal.

The patient was discharged home doing well on day 10 post-surgery. However, on day 21 post-surgery, the patient was re-admitted for chemical peritonitis and treated aggressively with broad-spectrum antibiotics. She had full recovery and no other postoperative morbidity.

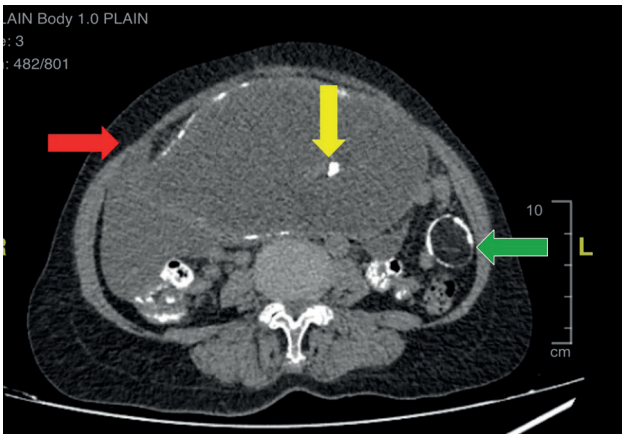

Figure 1: CT image of chronic mature cystic teratoma with focal defect on right lateral wall (red arrow) and collection of fluid adjacent to it. Presence of peritoneal nodule with calcified rim seen (green arrow) and single dentiform shaped calcification (yellow arrow).

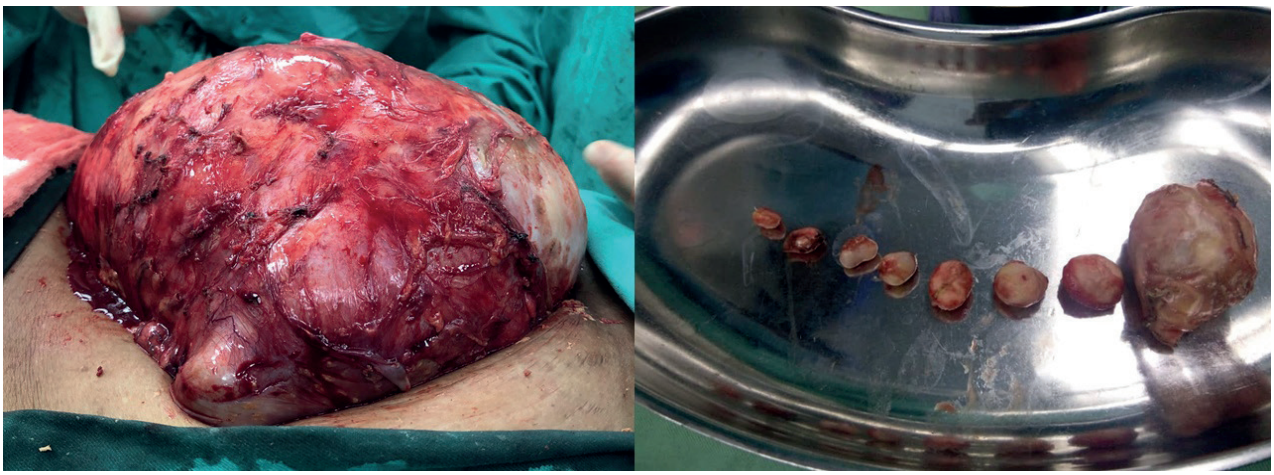

Figure 2: (Left) Intraoperative finding of chronic mature teratoma. (Right) Multiple peritoneal nodules of varying sizes found within peritoneal cavity.

Discussion:

MCT of the ovary is the most common type of ovarian germ cell tumour. In its pure form, it always benign, but a malignant transformation occurs in ~3.5% of cases.[2] It usually occurs during the reproductive stage and peaks in the second and third decades of life. Reported cases of postmenopausal MCT are uncommon. In a study of 230 MCT cases, 19 were postmenopausal women, and 4 of those 19 cases had a malignant transformation in which the eldest patient was 55 years old who presented with abdominal pain for 6 months duration.[2] Many patients experience problems during premenopausal but only seek treatment later. In one review done on pattern of presentation of gynecological diseases in a tertiary care hospital found that only 5.2% of all patient presented to their hospital for benign ovarian tumor.[3] Our patient had her mass for 30 years which was confirmed by sonographic features of mixed solid cystic with dash dot appearance and remained asymptomatic.

Given that MCT is one of the most common ovarian tumours during the reproductive stage, a thorough evaluation should be done on these patients. When a postmenopausal woman presents with an ovarian mass, malignancy should be considered, but a history of a long-standing abdominopelvic mass may suggest benign pathology.[4] Given that MCT commonly occurs during the reproductive age, those refused for surgical intervention might carry the mass during their postmenopausal period. In MCT, the are no specific symptoms and signs indicating malignancy and diagnosis; these are based on a histopathological evaluation.[5] A rapidly growing abdominal mass that was previously static in size and constitutional symptoms should be taken seriously due to the possibility of malignant transformation; in addition, the patient might present with complications.[6] The complications of MCT, such as torsion, rupture, the compressive effect, peritonitis and paraneoplastic syndrome, should be assessed during the initial presentation and at each visit. Our patient only presented with an abdominal mass; however, there was radio-imaging evidence of a rupture, which was chronic, and she developed chemical peritonitis as a consequence which lead to the development of peritoneal lesions or nodules in the abdominopelvic cavity.

A diagnosis of MCT can be obtained by ultrasound; however, the images can be nonspecific depending on the cyst content. The ultrasound features of ovarian MCT that have been well-described in the literature include the Rokitansky nodule or a dermoid plug, diffuse or regional high-amplitude echoes, the iceberg sign, the dot-dash sign and the floating balls sign.[7]

The CT's fat density and calcification inside a cyst are hallmarks of MCT, while on magnetic resonance imaging, the fat component is detected via fat saturation techniques and chemical shift imaging. Notably, unusual imaging features and complications may be encountered in routine clinic.

Conclusion:

For a long-standing ovarian MCT, a thorough assessment will provide the status of the mass and its associated complications. Although the malignant transformation rate of MCT is low, it should be considered in all cases involving postmenopausal patients.

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