

A rare case of huge unilocular autoamputated extra-ovarian dermoid cyst

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Abstract

Ovarian dermoid cysts are one of the commonest benign, pelvic tumours. However, presence of dermoid cysts at extra-ovarian locations is very rare. The extra-ovarian dermoid cysts can be of ovarian origin or may also originate from non-ovarian sites like omentum, retroperitoneum, mediastinum, etc. We report one such rare case of extra-ovarian dermoid cyst observed in a 70-year-old postmenopausal woman at department of Gynaecology of our hospital. Her ultrasonographic observations showed a large well defined cystic lesion predominantly in the left adnexa extending into the midline with internal echoes within, which was later confirmed with MRI. Following this, she underwent a total abdominal hysterectomy with vertical midline incision. Intraoperatively, she was found to have a large tumour of 3.25kg (28cm x 26cm x 11cm) with adhesion to the omentum on its anterior upper and posterior aspects. The surface of the oval mass was smooth with few adherent lobules of fat in some areas. Its gross cut section showed a thick walled uniloculated cyst with yellow areas and thick creamy white fluid. Cyst wall had a bony hard area and two balls of hair were also noted in side. The pedicle of the tumour seen to arise from the left side broad ligament close to left ovary. Uterus was atretic with an intramural fibroid. The dermoid appears to be derived from its autoamputation from one of the pelvic organs; probably ovary. It is unique in its size and vastness occupying the major part of the lower half of the abdominal cavity.

Key words: Pelvic Teratomas, Uterine Fibroids, Ovarian Cysts, Benign Tumours

Introduction

Development of dermoid cysts in ovary is considered as a common abnormality and is easily detected using pelvic ultrasonography [1]. The term dermoid cyst comprises of 10-20 percent of ovarian tumours. However, there are reports that it can also originate from extra-ovarian sites like omentum, retroperitoneum, mediastinum etc. [2,3]. We are reporting one such rare case of extra-ovarian dermoid cyst in the present case.

Case Report

A 70-year-old postmenopausal woman, admitted to our

hospital with complaints of intermittent dull aching lower abdominal pain since last 2 years mainly towards the right side of the abdomen. She had attained menopause at the age of 40 years. Her obstetric score was P₄L₃ with all being full term normal deliveries. Recently she was also diagnosed with diabetes mellitus.

Further examination revealed that she is over-weight and had bilateral pitting pedal oedema. Her vitals were stable and her systemic examination showed no abnormalities. On per abdominal examination, she was found to have about 20cm x 20cm mass palpable in the right iliac, hypogastric, left iliac and umbilical regions. The mass was mobile and all borders of the mass were palpable and were felt to be regular. The surfaces of the

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mass were smooth and non-tender. On local examination, vulva and vagina showed atrophic changes. Per speculum examination showed a bulky uterus with anterior fornix fullness.

Her haemoglobin level was 13g/dl, cancer antigen 125 was 56.5ml U/ml. Ultrasonographic showed uterus of size 11.5cm x 5.3cm and 3cm x 5.2cm with 6.7mm of endometrial thickness. There was a large well defined cystic lesion measuring 20cm x 15cm predominantly in the left adnexa extending into the midline with internal echoes within. A few calcified areas were also noted within the cyst largest being 31mm in size. Other ultrasonographic observations of other abdominal organs were normal except for the fatty liver. There was no ascites and pleural effusion. Radiologists suggested the possibility of a dermoid. MRI scanning later

confirmed the above findings and presence of a dermoid. PAP smear showed a low grade squamous intraepithelial lesion.

After attaining her glycemic control, she underwent a total abdominal hysterectomy with vertical midline incision. Intraoperatively, she was found to have a large tumour (28cm x 26cm x 11cm) with adhesion to the omentum on its anterior upper and posterior aspects. There were some appendices epiploicae, right uterine tube and urinary bladder also attached to the tumour. [Figure 1] The pedicle of the tumour seen to arise from the left side broad ligament close to left ovary. [Figure 2] The pedicle was clamped, cut and ligated. Uterus was atretic with an intramural fibroid measuring 5cm x 4cm. Left ovary was normal but, right ovary was smaller in size. Postoperative period was uneventful.

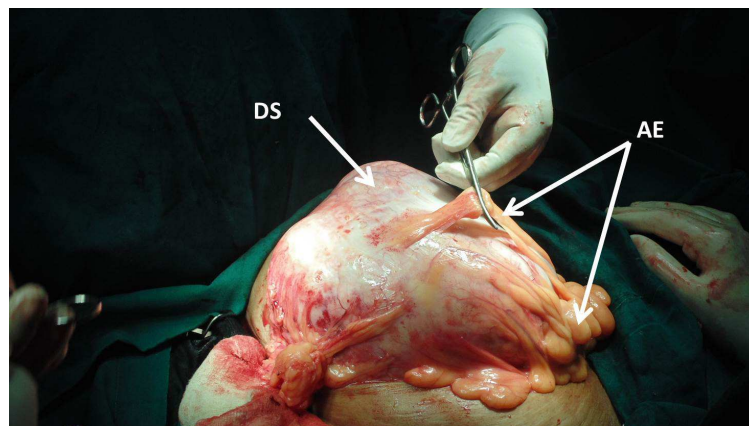


Figure 1: Extra-ovarian dermoid cyst (DS) pulled out of the abdominal cavity showing peritoneal folds; appendices epiploicae (AE) attached to it

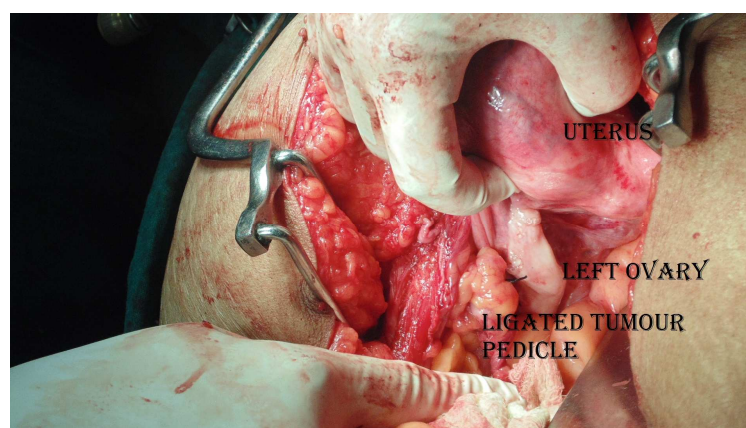


Figure 2: Intra-abdominal structures after taking out the dermoid cyst. Uterus has been pulled to the side to show the ligated tumour pedicle close to the left ovary.

The oval, bosselated cystic mass weighing 3.25kg was taken out. Its surface was smooth with few adherent lobules of fat in some areas. [Figure 3] A linear cord like, blunt ended structure measuring 8cm x 2cm was also seen. Gross cut section of the cystic mass showed a thick walled uniloculated cyst with yellow areas and thick creamy white fluid. [Figure 4] Cyst wall measured about 5mm with a bony hard area seen in one part of the wall. Two balls of hair were also noted [Figure 5]. However, there was no trace of fallopian tubes.

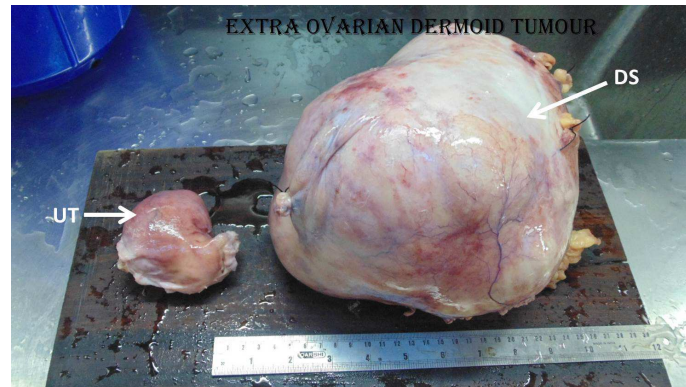


Figure 3: Extra-ovarian dermoid cyst (DS) and uterus (UT) taken out after surgery. Smooth surface of the dermoid cyst can be noted.



Figure 4: Extra-ovarian dermoid cyst (DS) cut open to show its uniloculation. Yellow areas and thick creamy white fluid inside the tumour can be noted.



Figure 5: Picture showing a ball of hair found inside the cyst. It can be noted here that there were two such balls of hair inside the cyst.

Uterus and ovaries were also taken out. Uterus weighed 40g and measured 8cm x 4cm x 4cm. Its gross cut section showed endometrium measuring 3mm with a polyp measuring 10mm x 3mm without stalk. Its myometrium showed an intramural fibroid which 5cm x 5.5cm. Uterine cervix measured 4.5cm x 3cm x 2cm. [Figure 6] Right ovary looked greyish measuring 1.8cm x 1.5cm x 0.5cm and its gross cut section showed blackish white areas in side. Left ovary looked greyish and irregular measuring 2cm x 2cm x 1cm and its gross cut section showed no remarkable features.

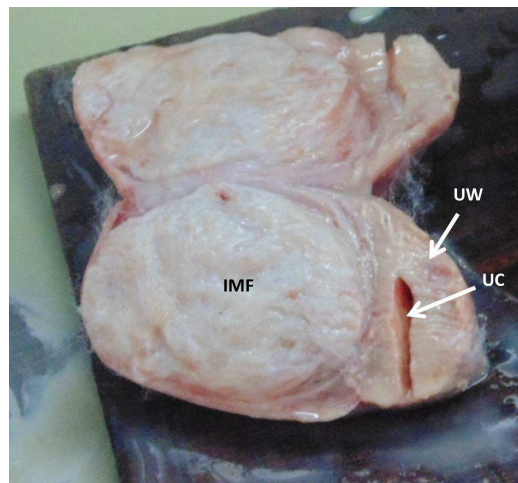


Figure 6: Uterus cut open to show the intramural fibroid (IMF). Also shown are uterine wall (UW) and uterine cavity (UC).

Removed cystic mass and organs were subjected to histopathological observations. Microscopic structure of cyst showed its wall lined by flattened epithelium. [Figure 7] There were isolated areas of large collections of hemosiderophages, lymphocytes and plasma cells. An area of lanugo hair and areas of necrosis were also observed. Microscopic structure of uterus showed proliferative endometrium with focal areas of cystic hyperplasia and endometrial polyp. Myometrium showed a large intramural leiomyoma composed of spindle shaped cells in fascicles. [Figure 8] Uterine cervix showed endocervitis and nabothian cysts. Histological observations of right and left ovaries were normal.

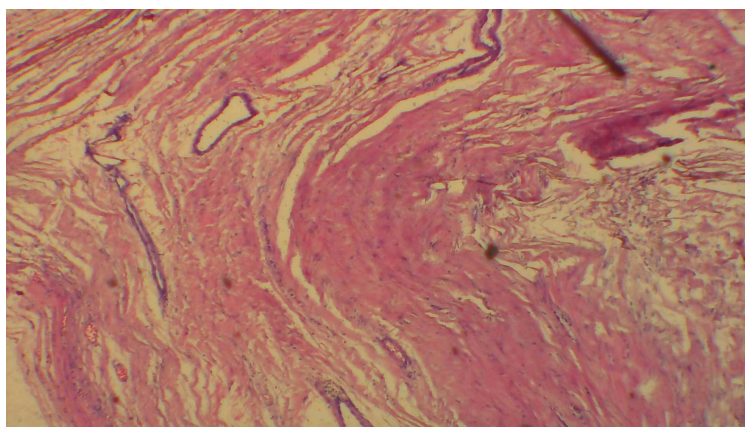


Figure 7: Photomicrograph of haematoxylin and eosin stained section of the wall of the extra-ovarian dermoid cyst

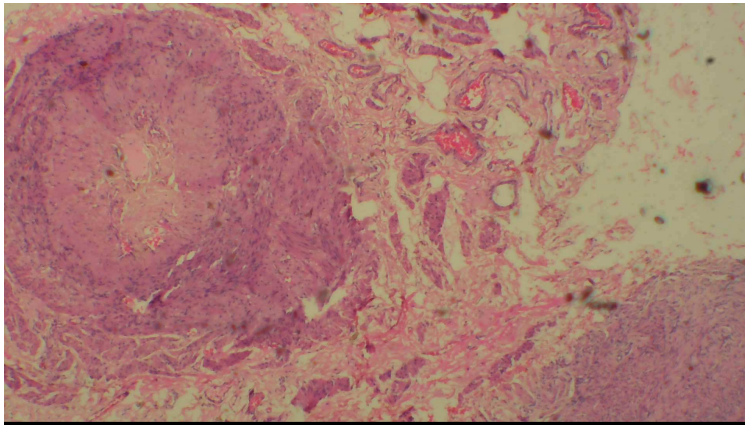


Figure 8: Photomicrograph of haematoxylin and eosin stained section of the uterine wall showing intramural fibroid.

Ultrasonographic, MRI scanning, gross and histopathological observations of the mass confirmed the case as an extra-ovarian dermoid cyst.

Discussion

Normally, dermoid cyst is a benign germ cell tumour. It is usually reported in patients of 25 to 45 years of age. However, in about 1.7% of cases, it is reported to be malignant especially in women of over 40 years age. In most cases, they are found to be unilateral and in about 10% of cases they are bilateral. Structurally, they are reported to be usually unilocular with smooth surface containing hair and sebaceous substances. There are also reports of teeth, bone, cartilage, thyroid tissue and bronchial mucous membrane or squamous epithelial lining found in its wall. [4] According to Hakim and Abraham, the term dermoid cyst is a misnomer as it contains tissues from all the three germ cell layers. [5]

Generally, ovarian neoplasms are thought to have 3 possible origins; surface epithelial stromal tumours, sex cord-stromal tumours and germ cell tumours. Germ cell tumours account for about 30% of primary ovarian tumours. And of these, 95% are mature cystic teratomas. Normally, during embryogenesis, germ cells migrate along the developing gut towards genital ridge and form mature gonads. [6] Teratomas arise from the totipotent germ cells which have capacity to regenerate into different tissues like endoderm, mesoderm or ectoderm.

According to Milingos et al., incidence of extra-gonadal teratoma is about 0.4% [7]. There are 3 theories put forward to explain the origin of extra-gonadal dermoid cysts. According the first theory, dermoids arise from the displaced germ cells. The second theory states that it

originates from a supernumerary ovary. And the third theory states that it is formed due to autoamputation of an ovarian dermoid and its re implantation into extra-ovarian sites. [2] In chronic or sub-acute torsion which is a common complication of ovarian cyst, the tumour gets new collateral circulation from neighbouring structures and gets detached its pedicle from the ovary. This phenomenon is called autoamputation of the dermoid. The present case is probably due to such autoamputation. [3].

Extra-ovarian dermoid cysts are extremely rare. They are very commonly reported to be associated with the omentum. (2) In addition, there are reports of dermoid cysts to be associated with fallopian tube. [8] Khoo et al. have reported an extra-gonadal teratoma in the pouch of Douglas [9]. In the present case, though the dermoid appears to be derived from its autoamputation from one of the pelvic organs; probably ovary, it is unique in its size and vastness occupying the major part of the lower left half of the abdominal cavity.

Conclusion

We would like to conclude that though the dermoid ovarian cysts are common, extra-ovarian dermoid cysts are very rare. The huge dermoid cyst occupying the major part of the lower half of the abdominal cavity observed in the present case appears to be one of the rarest cases and knowledge of such abnormalities will help the gynaecologists and surgeons in managing similar cases.

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