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Case Report

Torsion of dermoid cyst in a perimenopausal woman: a case report

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ABSTRACT

Mature cystic teratoma comprise 20-30% of all ovarian tumours. They are mostly seen in patients between 20 and 40 years of age and are mostly asymptomatic. Incidence of malignancy is high in perimenopausal and postmenopausal group. Here, authors report a case of torsion of dermoid cyst presenting unusually in a 45-year-old perimenopausal woman with acute abdomen. A 45-year-old perimenopausal woman presented with lower abdominal pain of 8 hours duration and 3-4 episodes of vomiting. Abdominal examination revealed a regular, firm to cystic, tender abdominopelvic mass corresponding to the size of 28 weeks gravid uterus by palpation. Abdominal ultrasonography revealed the presence of right ovarian cyst measuring 12.9x12.8x10.1 cm. Total abdominal hysterectomy with bilateral salpingo oophorectomy was done. Histopathological examination confirmed mature cystic teratoma. Although mature cystic teratoma is rare after 40 years age, especially in perimenopausal women and are usually malignant in that age group, it can have an unusual age presentation at 45 years with benign nature as in present case.

Keywords: Perimenopausal, Teratoma, Torsion

INTRODUCTION

Germ cell tumors are derived from primordial germ cells of the ovary. Approximately 25-30% of all ovarian tumors are of germ cell origin and of these, 95% are benign and only 3-4% are malignant.¹ Benign cyst teratomas (dermoid cyst) account for 10 to 20% of all ovarian neoplasms.² They are common in young women, especially at the age of 30 years. Additionally, they are also the most common ovarian cysts in adolescents.³ It is quite uncommon in older ages, particular in postmenopausal women. Only a few cases of postmenopausal immature teratoma of the genital tract have been reported so far.^{4,5} In most of cases, they are asymptomatic and can be discovered accidentally on clinical examination or ultrasonographic scan.⁶

Dermoid cysts are usually indolent tumors with very slow rate of growth about 1.8 mm per year.⁷ Giant dermoid

cysts have been infrequently reported in the literature. The incidence of torsion in a case of dermoid cysts is approximately 15%. Ovarian torsion is the fifth most common gynecological emergency condition.⁸ with a prevalence of 2.7%. Adnexal torsion involves twisting or rotation of the ovarian vascular pedicle i.e. the infundibulopelvic ligament, ovary, fallopian tube, or both.⁹ Any delay in diagnosis and prompt treatment can lead to ischemia, necrosis with peritonitis, non-viable ovarian tissue, and in neglected cases may lead to death. Early diagnosis and prompt surgical intervention are vital to preserve ovarian function.

CASE REPORT

In June 2018, a 45-year-old lady presented to the emergency unit of R. L. JALLAPA Hospital, with acute lower abdominal pain of 8 hours duration which was dull aching, mainly localized to the right side of the abdomen

and radiating to the back. It was associated with three episodes of vomiting, non-bilious. She had two term normal vaginal deliveries. Her medical, surgical and family history were unremarkable, and her menstrual cycles were regular.

On general examination, she was of well built, weighed 76 kg, BMI of 26.8kg/m². Her blood pressure was 100/70 mmHg, pulse rate was 90/min, regular. There was no pallor. Cardiac and lung examinations were unremarkable. Abdominal examination revealed a grossly distended abdomen by an abdomino-pelvic mass corresponding to the size of 24 weeks gravid uterus by palpation. The mass was regular, variable in consistency, with limited mobility and rebound tenderness was present. On Bimanual examination a mass of size about 15x15cms firm to cystic in consistency, very tender with limited mobility and smooth surface felt in anterior and right lateral fornix. uterus felt separately from mass, six weeks in size. Right forniceal fullness and tenderness present. Provisional diagnosis of torsion of right ovarian cyst made.

Abdominal ultrasonography revealed the presence of large mixed echogenic solid, cystic and fat components within the lesion measuring 12.9x12.8x10.1 cm with thin echogenic septum and calcification in right ovary. The fat fluid level noted which moves on lateral decubitus position. Left ovary normal in size and echo pattern. Liver, spleen, appendix, bowel unremarkable.

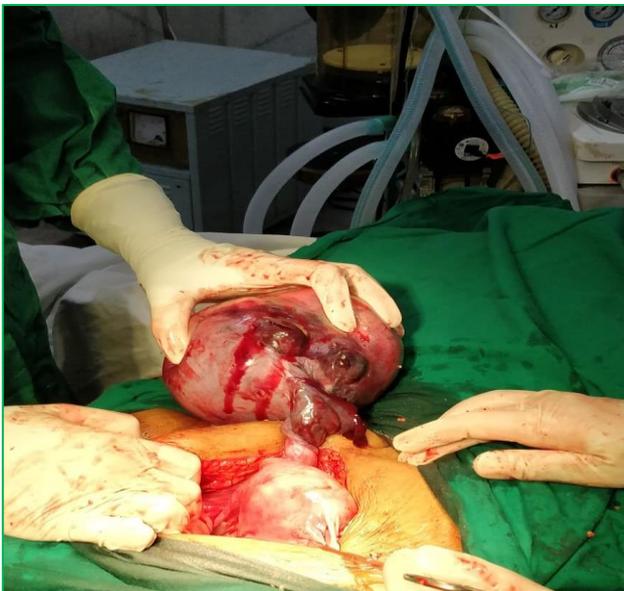


Figure 1: Dermoid cyst of right ovary on laparotomy.

Laboratory investigations, including hemoglobin level, platelet count, urine routine were all within normal range. Based on high suspicion of possibility of twisted ovarian cyst, the patient and her husband were counseled and an informed written consent for abdominal exploration was obtained. Abdominal exploration was done under spinal anesthesia through a vertical incision.

There was a heterogeneous mass originating from the right ovary not adherent to the surrounding viscera with repeated twists in its pedicle (Figure 1). Pedicle containing infundibulopelvic ligament, fallopian tube, round ligament. Total abdominal hysterectomy with bilateral salpingo ophorectomy was done. The removed mass measured 15x15 cm. Left ovary and tube were normal, uterus of 6weeks size. Closure of the abdomen was done in anatomical layers. No blood transfusion was needed. Post operatively, the patient was stable, and the course of recovery was unremarkable.

Histopathological examination revealed twisted dermoid cyst (Figure 2). On gross examination a right ovarian cyst of size 14x9x7 cm filled with grey white cheesy material along with few hairs. Cut section shows pultaceous material with hair, inner surface of ovary shows hemorrhagic areas and tooth also identified.



Figure 2: Dermoid cyst of 15x15 cm; cut specimen revealed teeth, hair, and thick sebaceous material.

On microscopy ovary shows ovarian stroma, tissue lined by stratified squamous epithelium, sub epithelium shows sebaceous glands, smooth muscle bundles, foci of respiratory epithelium and mature cartilage are seen-suggestive of mature teratoma (Figure 3).

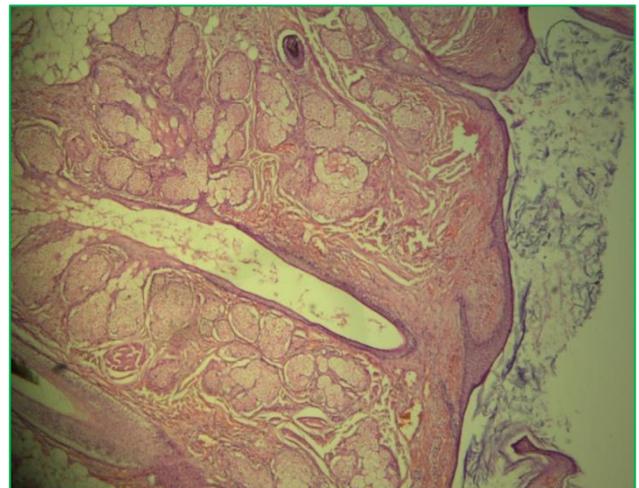


Figure 3: Ovary shows ovarian stroma, lined by stratified squamous epithelium and sebaceous glands.

DISCUSSION

Benign cystic teratomas, commonly known as dermoid cysts, are the most common ovarian neoplasms found in women. These neoplasms originate from primordial germ cells that migrate from the yolk sac to the ovary. Teratomas are characterized by the presence of all three embryonic germ cell layers (ectoderm, mesoderm, and endoderm).

Ovarian torsion commonly occurs on the right side. Most commonly, it occurs with torsion of the fallopian tube as they share the same vascular pedicle, as same reported with present case.¹⁰ Torsion occurs in about 15% of dermoid cysts as a result of their high fat content, and pultaceous material along with bony tissue and teeth which makes the cyst heavy causing them to freely float in the abdominal cavity, leading to torsion of the adnexa. Torsion causes tissue ischemia and necrosis leading to severe pain; and requires emergency surgical intervention.

Ultrasound is the primary mode of evaluation of a patient with lower abdominal pain because it is noninvasive, accessible, and cost-effective with accurate results. With Ultrasound, the typical findings of ovarian torsion can be visualized in patients of all ages, although they are not always present. One series studying the effectiveness of Ultrasound in diagnosing ovarian torsion yielded a positive predictive value of 87.5% and specificity of 93.3%, corroborating the potential for expeditiously making this diagnosis.¹¹ Features of Ovarian Torsion on ultrasound are:

- Unilateral enlarged ovary (>4 cm)*
- String of pearls sign
- Coexistent mass within the twisted ovary
- Free pelvic fluid
- Twisted vascular pedicle.

However, the presence of normal appearing ovaries does not rule out the diagnosis of adnexal torsion.¹²

At color Doppler sonography of the twisted vascular pedicle, visualization of circular or coiled vessels is the whirlpool sign. Ovaries without flow in the vascular pedicle at color Doppler sonography were necrotic or infarcted at surgery.^{13,14}

Doppler sonography does not rule out ovarian torsion. A review of the literature revealed the presence of normal arterial and venous flow in 57% (16 out of 28) of cases of surgically confirmed adnexal torsion.¹⁵ Possible explanations for these observations include: venous thrombosis resulting from torsion leads to symptoms and ovarian necrosis before arterial thrombosis occurs, and persistent adnexal arterial flow is related to the dual ovarian arterial blood supply (ovarian artery and branches from the uterine artery).¹⁶

Once diagnosis of dermoid cyst with torsion is made, immediate surgery is indicated. Laparoscopy may confirm the diagnosis and permit detorsion of a partial adnexal torsion and excision of the teratoma. Salpingo-oophorectomy of necrosed adnexa due to complete torsion is possible through a laparoscopic approach if the teratoma is smaller than 5 cm.

Large teratomas, as found in the patient described here, require laparotomy through an abdominal incision, clamping of the torted pedicle proximal to the torsion and removal of affected adnexa.

This case highlights the rare but possible presentation of dermoid cysts in perimenopausal age.

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