Ovarian Cystovesical Fistula causing Pilimiction: An Unusual Complication of Ovarian Cyst

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Abstract

Ovarian teratomas are one of the most common tumours accounting about 20% of adult ovarian tumours. They consist of either mature or immature tissue of all the three germ cell layers. Complications include – torsion (16%), rupture (1-4%), malignant transformation (1-2%), infection (1%), autoimmune hemolytic anaemia (<1%). Adhesion and perforation into bladder is one of the rare complications. We reported a case of 32 year old parous lady with straining at micturition, narrow stream, passing hair i.e. pilimiction and turbid urine occasionally. On cystoscopy, hair ball visualized. CECT demonstrated an ovarian dermoid cyst invading the urinary bladder. Procedure--TAH with BSO and partial cystectomy done. The diagnosis of fistulous tract between ovarian dermoid with bladder was confirmed.
INTRODUCTION
This paper presents a case of ovarian teratoma adhering and perforating into bladder, a rarely encountered complication of ovarian teratoma. The usual complications include torsion (16%), rupture (1-4%), malignant transformation (1-2%), infection (1%), auto-immune hemolytic anaemia (1%). Adhesion and perforation into adjacent organs like bladder is one of the rare complications. We report the case, paraous lady who presented with strangury, narrow stream, passing hair in the urine (pilimiction). On evaluation diagnosed as ovarian teratoma with fistulous communication with bladder.

CASE REPORT
A 32year old paraous woman presented with complaints of strangury, pilimiction, turbid urine, lower abdominal pain. No menstrual disturbances. She had two previous normal deliveries, with last child birth 10years back and tubectomised. No significant past medical or surgical history was found.

Examination revealed normal general condition. Abdominal examination was normal. External examination showed healthy cervix and vagina. Bimanual pelvic examination revealed—uterus of normal size and deflected to left side, ill-defined nodular mass felt in the right and anterior fornix anterior to the uterus with restricted mobility. Per rectal examination was normal.

On USG, Supravesical mass indenting into bladder wall, bladder filled with internal echogenic particles. (Fig. 1)

On CECT- ill defined mixed dense lesion of 8.9x5.7x5.4cm with peripheral enhancement and internal pockets of air, fat, calcification in pelvis on left side. Lesion extending through a rent of 7mm in the postero-superior surface of urinary bladder. (Fig. 2)

Tumour markers like alpha fetoprotein, beta HCG, serum LDH are within normal limits.

Surgical procedure: Total abdominal hysterectomy, bilateral salpingo oophorectomy with partial cystectomy at the level of bladder dome was performed. (Fig 4). Gross specimen showed abundant hair and tooth (Fig 5).

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Post-operatively patient recovered well and no urinary leak.

**Figure 4:** After TAH, mass adhering to the bladder

**Figure 5:** Gross specimen showing hair, tooth.

**Figure 6:** Mature cystic teratoma with all three germ cell layers

**Figure 7:** Bladder wall with hair follicles

Histopathology of left ovarian teratoma suggestive of mature cystic teratoma with foreign body giant cell reaction (Figure 6). Histopathology of bladder wall suggestive of chronic nonspecific inflammation (Figure 7).

**DISCUSSION**

Ovarian teratomas are germ cell tumours and the word is derived from the Greek ‘teras’, meaning monster, which Virchow coined in the first edition of his book on tumours published in 1863. One of the most common ovarian tumours accounting for about 10-20% of all ovarian tumours. They are the most common ovarian germ cell tumours and also the most common ovarian neoplasm in patients younger than 20 years. They are bilateral in 8-14% of cases. They consists of either mature or immature tissue of all the three germ cell layers i.e. ectoderm, mesoderm and endoderm.

They are often discovered as incidental findings on physical examination, during radiographic studies, or during abdominal surgery performed for other indications. Uncomplicated ovarian dermoid cysts are usually asymptomatic and symptoms mostly appear after secondary complications develop.

Complications include torsion, rupture, infection, hemolytic anaemia and malignant transformation. Torsion is by far the most significant cause of morbidity, occurring in 3-11% of cases. Rupture is rare and may be spontaneous or associated with torsion. Autoimmune hemolytic anaemia has been associated with mature cystic teratomas in rare cases.

Adhesion and fistulous communication into adjacent viscera is one of the least common complications. However when such a communication occurs the bladder is the commonest site.
Patients with perforation into bladder may present with complaints such as pilimiction, pyuria, hematuria or passage of other materials from a dermoid cyst. Various etiologies have been postulated for fistula formation in dermoid cyst. Shiels et al. reported a case of entero-ovarian dermoid cyst fistula and suspected that a small leak from the cyst caused dense adhesions with the bowel resulting in fistula formation. Peterson et al. found that torsion, trauma, infection, chronic pressure and malignant transformation can cause leakage and fistula formation. Chronic leakage thus appears to be a common cause in non-malignant fistulation with adjacent viscera. In our case, torsion leading to ischemic focal wall necrosis and leakage may be the cause for formation of fistula.

On USG imaging, mature dermoid appears as a thick-walled cystic mass with echogenic contents and calcifications. CT is diagnostic, as it explicitly demonstrates fat and calcification. Also helps to delineate the mass in relation to the adjacent viscera and to identify any associated complications. On CT scan, perforation into bladder may be either seen clearly as a fistula or inferred from indirect signs such as fat-urine levels. But in all cases where there was a communication between a dermoid cyst and the bladder, the diagnosis was made by cystoscopy or laparotomy.

Surgical resection of the lesion with bladder repair is the definitive treatment and histopathological examination is essential to exclude malignant transformation. A correct preoperative diagnosis based on the clinical features and investigations in our case can help to plan the surgery.

CONCLUSION
To conclude that ovarian teratomas are common ovarian tumours that have an indolent course which may become symptomatic due to complications such as torsion, hemorrhage, infection and malignant change. Spontaneous rupture of teratomas is a rare event due to its thick wall. Perforation into an adjacent hollow viscus such as the bladder is extremely rare, however in a female patient with chronic urinary symptoms the physician must be aware of this condition.

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COMPETING INTERESTS
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