Mature Ovarian Teratoma Presenting as Small Bowel Obstruction

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Abstract Mature cystic teratoma is a relatively common tumor of the ovary. It makes up 10–15 % of all ovarian tumours and tends to occur at a relatively early age. Except for functional ovarian tumors, the other lesions from the ovary are usually asymptomatic and usually present with mechanical symptoms from the mass lesion. We present a case of a mature cystic teratoma presenting with small intestinal obstruction with x-ray suggesting a radioopacity in the right iliac fossa.

Keywords Mature ovarian teratoma · Small bowel obstruction · Radioopacity

Introduction

Mature cystic teratoma is a relatively common tumor of the ovary. It makes up to 10–15 % of all ovarian tumors [1] and tends to occur at a relatively early age. Except for functional ovarian tumors, the other lesions from the ovary are usually asymptomatic and usually present with mechanical symptoms from the mass lesion. We present a case of a mature cystic teratoma presenting with small intestinal obstruction. Preoperative X-ray of the abdomen showed a fixed radiopaque density in the right iliac fossa.

Case Report

A 30-year-old lady presented with abdominal pain and distention, obstipation, and decreased urine output since 3 days. She had a full-term normal delivery 9 months prior and was having lactation amenorrhea. Abdominal examination revealed a distended abdomen with tenderness and hyperperistaltic bowel sounds. Per rectal and per vaginal examinations were not contributory. X-ray of the abdomen showed dilated small bowel loops (jejunum) with multiple air-fluid levels, absent gas shadows in the colon, and multiple radio opacities clumped together in the right pelvis (Fig. 1). She was diagnosed as a case of acute intestinal obstruction probably from enteroliths and was planned for laparotomy.

Intraoperatively, the small bowel loops were dilated up to around a foot from the terminal ileum. The terminal ileum was obstructed by omental bands adherent to a swelling arising from the right ovary about 8 cm in diameter. The constricting omental bands were released, obstruction relieved, and an oophorectomy done. The cut section of the specimen showed cheesy material with hair and multiple bone fragments, which corresponded to the radiopacity seen on the abdominal X-ray (Fig. 2).

Discussion

The germ cell tumors comprise teratoma, endodermal sinus tumor, nongestational choriocarcinoma, and dysgerminoma. These account for 60–70 % of tumors in women under the age of 20, and about 90 % of these occur before puberty [1]. Differentiation along the embryonic lines gives various forms of teratoma. Tumors with tissues representative of all the three primary embryological layers arise from the ovum by varied differentiation of a totipotent cell. A mature

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Fig. 1 X-ray showing dilated small bowel loops and radio-opacities in the right iliac fossa

cystic teratoma is the most common type of ovarian teratoma, with peak incidence in the age group of 20–29 years [2].

The clinical characteristics may vary with age. In one study, the proportion of asymptomatic patients increased significantly after 20 years of age. There was no age specific difference in presentation with ovarian torsion. However, larger tumors were more common in younger patients and immature teratomas were more commonly symptomatic at first presentation [3].

They may present with hyperthyroidism, if there is functional thyroid tissue in the lesion. Intestinal elements in the dermoid cyst can cause the carcinoid syndrome. Strumal and mucinous subtypes have been described [4]. Patients may

Fig. 2 Cut open specimen showing bone fragments and hair

present with acute abdomen following torsion of the ovary. The relatively small size and mobility make them more prone to torsion. Intermittent and incomplete torsion causes degenerative changes in the cyst wall leading to adhesions with adjacent bowel or omentum. Severe chemical peritonitis can occur following leakage of the sebaceous contents of a dermoid cyst leading to dense adhesions [5, 6]. Intestinal obstruction from adhesions is likely with malignant ovarian tumors, but is very rare with benign tumors. There is a report of a right ovarian mature teratoma penetrating and protruding into the ileum requiring ileocecal resection and right ovarian cystectomy [7]. More commonly, malignant transformation in an ovarian teratoma can present as intestinal obstruction following fistulization into the bowel [8].

Radiological investigation is helpful. An abdominal radiograph may show calcifications from tooth or bone fragments at the pelvic brim, corresponding to the level of bowel obstruction, suggesting the possibility of a teratoma as in this case. Most mature cystic teratoma can be diagnosed at ultrasonography, but may have a variety of appearances, characterized by echogenic sebaceous material and calcification. At computed tomography, fat attenuation within a cyst is diagnostic. Because of the easy availability of sonogram, many of these lesions are picked up earlier, probably as an incidental finding during evaluation of abdominal pain. When diagnosed preoperatively, ovarian teratomas can be removed either laparoscopically or at laparotomy depending on the size.

Conclusion

Ovarian teratomas can be asymptomatic or cause chronic mild abdominal discomfort. If complications manifest, they are usually due to torsion and/or rupture of the cyst. Acute intestinal obstruction is a very rare complication of ovarian dermoid cysts. Abdominal X-ray showing radiopacities in the iliac fossa should raise a suspicion of an ovarian teratoma as the pathology.

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