Case Report

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Ovarian dermoid presenting as acute intestinal obstruction: a rare case report and review of literature

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ABSTRACT

Teratomas are germ cell tumors mainly composed of multiple cell types derived from one or more of the 3 germ layers and they range from benign, well-differentiated (mature) cystic lesions to those that are solid and malignant (immature). Dermoid cysts of the ovary represent the most common form of benign ovarian tumor. Benign cystic teratomas of the ovary have been reported in wide age groups ranging from 1 to 91 years. Although ovarian dermoids remains asymptomatic for quite long time yet rarely, serious complications occur that result in life-threatening events such as bowel perforation. The most common complication associated with dermoid cysts is torsion. In contrast, rupture, infection and secondary malignant change are uncommon complications and dermoid cysts only very rarely present with bowel involvement. The case under report is that of 25 years old lactating female who delivered a full term baby 12 weeks back and presented to hospital with features of acute intestinal obstruction. The case is being reported due to rarity of its presentation.

Keywords: Teratoma, Mature benign teratoma, Dermoid cyst, Ovary, Intestinal obstruction

INTRODUCTION

Teratomas are germ cell tumors commonly composed of multiple cell types derived from one or more of the 3 germ layers and they range from benign, well-differentiated (mature) cystic lesions to those that are solid and malignant (immature). 1

Mature cystic teratomas (dermoid cysts) are benign tumors found in a variety of locations including the gonads, central nervous system, head and neck and retro peritoneum. They develop from totipotent germ cells and can give rise to a diverse array of mature tissue types resulting in the frequent finding of structures such as hair, bone, teeth, fat and neural tissue. Dermoid cysts of the ovary represent the most common form of benign ovarian tumor.²

Benign cystic teratomas of the ovary have been reported in wide age groups ranging from 1 to 91 years. They are the most commonly neoplasm detected in adolescents and during pregnancy. These are usually asymptomatic until they grow to a large size or produce complications.³ In 0.1-0.2% of cases, it may undergo malignant transformation.⁴

Although ovarian dermoids remains asymptomatic for quite long time yet rarely, serious complications occur that result in life-threatening events such as bowel perforation.⁵ The most common complication associated with dermoid cysts is torsion. In contrast, rupture, infection and secondary malignant change are uncommon complications and dermoid cysts only very rarely present with bowel involvement.^{6,7}

The case under report is that of 25 years old lactating female who delivered a full term baby 12 weeks back and presented to hospital with features of acute intestinal obstruction. The case is being reported due to rarity of its presentation.

CASE REPORT

A 25 year old woman G2P2L2A0, presented 12 weeks post-partum with a 3 days history of abdominal pain, distension, fever, nausea and non-projectile, non-bilious vomiting. Physical examination revealed sick looking female with moderate pallor. On systemic examination, there was abdominal distension, guarding, generalized rigidity and rebound tenderness. There was no evidence of hernia or previous surgical scars. Digital rectal and per vaginal examinations was unremarkable. Her initial blood investigations revealed a significant rise in white cell count with hemoglobin levels of 7.5 gm/dl, straight X-ray abdomen revealed multiple air-fluid Ultrasonography of the abdomen revealed the presence of free echogenic material in the pelvic cavity, distended gut loops and a mass in the right iliac fossa with provisional diagnosis of ileo-ileal intussusceptions. CECT abdomen demonstrated dilated and thickened small bowel loops and confirmed the presence of an inflammatory mass in right iliac fossa. There was echogenic fluid in the pelvis and between the gut loops. No clear cause for the small bowel obstruction was demonstrated.

After initial optimization of the patient, laparotomy was undertaken. Intraoperatively, a large cocoon of terminal ileum was noted in right iliac fossa. There was evidence of interloop thick fluid. About 200 ml of thick dirty fluid was also mopped from the pelvic cavity. Further dissection revealed a large soft tissue mass arising from right ovary which had infiltrated the terminal ileum about 20 cm proximal to ileocaecal junction. Multiple ileal perforations were also noted. Small bowel proximal to tumor was significantly dilated in keeping with a degree of obstruction. The mass was retrieved from the gut and excised completely. Lot of hair were present alongside the mass. The diseased portion of the gut was excised and a divided ileostomy was made, keeping in view the low condition of the patient. Cut section of the cyst showed yellow cheesy material and hair (Figure 1 to 4).



Figure 1: Ovarian dermoid protruded into ileum.



Figure 2: Ovarian dermoid being brought out from ileum



Figure 3: Perforated ileum where dermoid eroded ileum.



Figure 4: Excised dermoid cyst with hair that eroded ileum.

DISCUSSION

This report has highlighted an extremely rare case of acute intestinal obstruction caused due to erosion of ovarian dermoid into the ileum, further causing distension of proximal small bowel and also the intra-operative features of peritonitis. The most common complication associated with dermoid cysts is torsion. In contrast, rupture, infection and secondary malignant change are uncommon complications and dermoid cysts only very rarely present with bowel involvement. In this regard, entero-ovarian fistulae have been described involving both the small 19-11 and large 12-15 bowel. Such patients may present with pain, rectal bleeding or the passage of dermoid cyst contents such as hair and teeth within the stool. However, how such fistulae form is not entirely

understood. The wall of a dermoid cyst leakage and the subsequent development of dense adhesions between the cyst and the bowel or other viscera such as the bladder leading to wall necrosis, inflammatory change, perforation of the wall and consequent fistula formation. ^{12,14,15} In the case that we present here, small bowel obstruction had been caused by direct perforation of the proximal ileum by the smaller right sided ovarian dermoid cyst. In addition, there were intra-operative features of peritonitis also. Although such an occurrence has been described previously in association with malignant transformation, 9,11,14 macro and microscopic examination confirmed that this was not the case here and that the cyst had directly infiltrated the bowel wall causing intraluminal obstruction in the form of a pedunculated tumor. It seems probable that a similar mechanism to that proposed for fistula formation had occurred, possibly precipitated by the recent pregnancy.

This report has highlighted an unusual case of small bowel obstruction resulting from the direct infiltration of an ovarian dermoid cyst into ileum. Whilst operative intervention is clearly not ideal during pregnancy, this case emphasizes the need to be aware that complications relating to dermoid cyst disease may arise from small innocuous appearing cysts in the contralateral ovary as well as from larger well-defined lesions.

CONCLUSION

Dermoid cyst is an entity known for its diverse presentations. That is the reason clinical diagnosis of the entity is rarely possible both in diseased and undiseased state. Surgeons dealing with obscure clinical presentations both in acute and chronic abdominal symptoms must keep in mind the possibility of this entity and its obscure and complicated nature of presentations. Whilst operative intervention is clearly not ideal during pregnancy, this case emphasizes the need to be aware that complications relating to dermoid cyst disease may arise from small innocuous appearing cysts in the contralateral ovary as well as from larger well-defined lesions.

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