

An Unusual Case Of Small Bowel Obstruction

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Citation

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Abstract

An unusual case of small bowel obstruction secondary to perforation by an ovarian dermoid cyst is presented. A 38 year old post-partum woman with a known right sided ovarian dermoid cyst presented with a history of small bowel obstruction which failed to settle with conservative measures. Laparotomy was undertaken, the right ovarian dermoid cyst was identified and removed and a left sided ovarian dermoid cyst was found to be adherent to the small bowel. A small bowel resection was undertaken with en-bloc resection of the left Fallopian tube and ovary. On histological evaluation, the cyst had directly perforated the wall of the small bowel causing a polypoidal obstruction within the bowel lumen. Perforation and subsequent obstruction of the small bowel by ovarian dermoid cysts is extremely rare, but should be considered as a possible cause in those patients with known dermoid cysts presenting with obstruction. This case illustrates the need to be aware that complications relating to dermoid cyst disease may arise from small innocuous cysts in the contralateral ovary as well as from larger well-defined lesions.

INTRODUCTION

Mature cystic teratomas (dermoid cysts) are benign tumours found in a variety of locations including the gonads, central nervous system, head and neck and retroperitoneum. 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 tumour and are the most common type of ovarian tumour found during adolescence and pregnancy (1). In up to 20% women, ovarian dermoid cysts are bilateral. Although usually asymptomatic, recognised complications of ovarian dermoid cysts include rupture, torsion, infection and malignant transformation. Here, we describe an unusual case of small bowel obstruction in which the obstruction was caused by the direct perforation of the dermoid cyst through the small bowel wall and subsequent growth within the small bowel lumen.

CASE REPORT

A 38 year old woman presented 14 weeks post-partum with a 3 week history of abdominal pain, distension, nausea and vomiting. Her past medical history included a known right ovarian dermoid cyst, which had been managed conservatively throughout pregnancy. Physical examination revealed a distended abdomen with no evidence of herniae or previous surgical scars. Auscultation demonstrated the

presence of high pitched bowel sounds and plain radiography of the abdomen was suggestive of small bowel obstruction. Her initial blood investigations revealed a white cell count of $11.7 \times 10^9/L$ and a C reactive protein of 117mg/L. Her other blood investigations, including CA-125 and CEA were unremarkable. A water soluble contrast meal and follow-through was suggestive of subacute bowel obstruction and a CT scan demonstrated dilated and thickened small bowel loops and confirmed the presence of a 7.5cm right dermoid cyst (Figure 1A) and also revealed a 3cm left ovarian cyst in close association with a loop of small bowel (Figure 1B).

Figure 1

Figure 1a: CT Pelvis. Film demonstrates a 7.5cm right sided dermoid cyst.

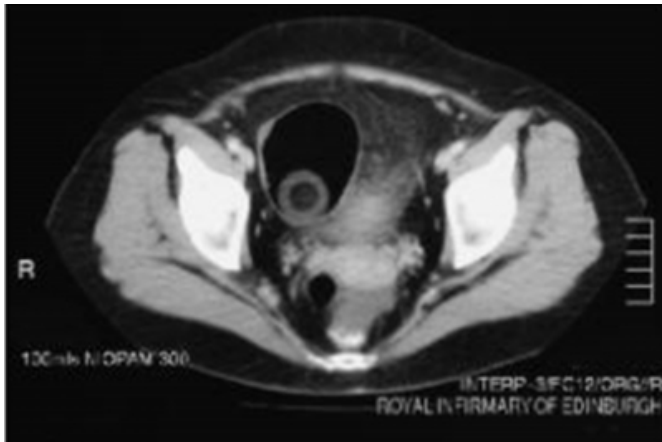


Figure 2

Figure 1b: CT Pelvis. Film demonstrates soft tissue structure adjacent to left ovary containing a 3cm cyst.



No clear cause for the small bowel obstruction was demonstrated. A little free fluid was evident. The small bowel obstruction failed to settle with conservative measures alone and laparotomy was undertaken. Intraoperatively, a large soft tissue mass associated with the proximal ileum was evident and was found to be closely adherent to an enlarged left ovary, to the sigmoid colon and to adjacent small bowel loops. The small bowel proximal to the tumour was significantly dilated in keeping with a degree of obstruction. Although both ovaries were noted to be enlarged, only the right ovary had an obvious dermoid cyst in keeping with earlier imaging, the left ovary appeared macroscopically non-cystic. A number of enlarged lymph nodes were present in the small bowel mesentery. A small bowel resection was undertaken with en-bloc resection of the left Fallopian tube and ovary. A right ovarian cystectomy

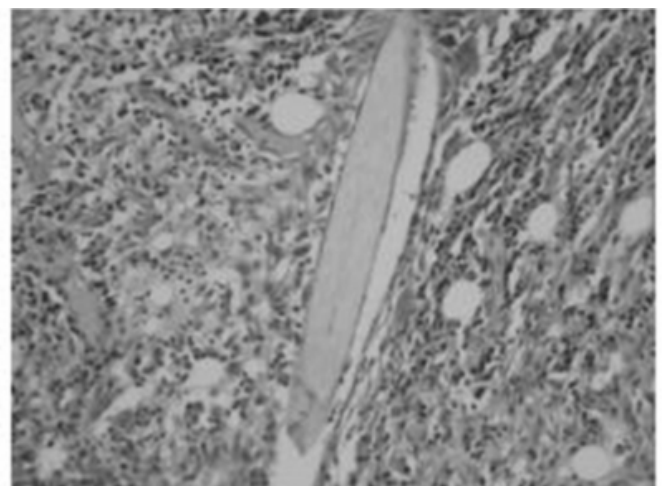
was also performed. Postoperatively, the patient made an uncomplicated recovery.

PATHOLOGY

Macroscopic examination of the small bowel resection revealed the presence of an intraluminal polypoidal tumour measuring 7 x 3.5 x 3.5cms attached to a 0.6cm stalk which protruded from an area of matted hair and fat in the small bowel wall. In continuity with this area was a 4.5cm mass was evident which, on serial sectioning, appeared to be an abscess. It was thought that the abscess adjacent to the small bowel might represent the left ovarian dermoid cyst identified on CT scan. Microscopically, the polypoid tumour was composed of mature adipose tissue with evidence of extensive fat necrosis, granulation tissue formation and infarction. Large nerves and vessels were present within the fatty tissue together with focal areas of squamous epithelium with adnexae (Figure 2) and small bowel mucosa.

Figure 3

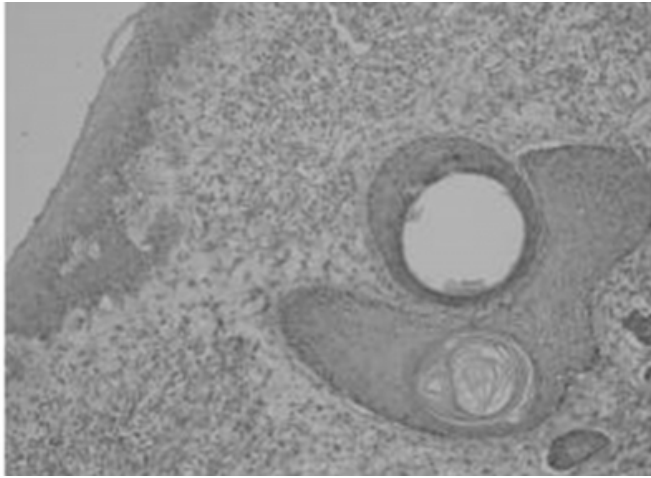
Figure 2: Hair shaft surrounded by chronic inflammation in the stalk of the polyp (H&Ex20;).



Similar contents were evident within the stalk of the polyp in association with significant hair shaft formation (Figure 3).

Figure 4

Figure 3: Squamous epithelium with adnexae in polypoid tumour (H&Ex10;).



Ovarian stroma and part of a luteinised cyst was present adjacent to the abscess, confirming the macroscopic impression of a left ovarian dermoid (mature cystic teratoma). The right ovarian dermoid cyst also comprised mature adipose tissue and squamous epithelium. As on the left side, there was no evidence of malignancy.

DISCUSSION

This report has highlighted an extremely rare case of small bowel obstruction resulting from the direct perforation into the proximal ileum and subsequent intraluminal growth of an ovarian dermoid cyst. The most common complication associated with dermoid cysts is torsion (2). 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 (3,4,5) and large (5,6,7,8) bowel. Such patients may present with pain, rectal bleeding or the passage of dermoid cyst contents such as hair and teeth within the stool (4). However, how such fistulae form is not entirely understood. The wall of a dermoid cyst is thick and does not rupture easily. It has therefore been hypothesised that fistulae may occur as a consequence of 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 (6,9). In the case that we present here, small bowel obstruction had been caused by direct perforation of the proximal ileum by the smaller left sided ovarian dermoid cyst. Although such an occurrence has been described previously in association with malignant

transformation (3,5,8), 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 tumour. 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 into proximal ileum of an ovarian dermoid cyst. Whilst operative intervention is clearly not ideal during pregnancy, this case emphasises 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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