CASE REPORT

Intestinal obstruction caused by a strangulating adnexa: a rare complication of ovarian sparing hysterectomy

Mohamad Minhem,¹ Youssef Mohsen,² Charbel Saade,² Ali Hallal¹

¹Department of Surgery, American University of Beirut Medical Center, Beirut, Lebanon

²Department of Diagnostic Radiology, American University of Beirut Medical Center, Beirut, Lebanon

Correspondence to

Dr Ali Hallal, ah05@aub.edu.lb

Accepted 30 January 2018

SUMMARY

Intestinal obstruction caused by a remnant fallopian tube from previous hysterectomy is a rare entity that has been reported once in the literature. We report the case of a 61-year-old woman who presented with both small and large bowel obstructions caused by a strangulating remnant fallopian tube. She had an ovarian sparing hysterectomy 16 years ago and was diagnosed with antiphospholipid syndrome. Our case report will discuss the clinical presentation, imaging and outcome of the patient. It will also briefly tackle other rare causes of bowel obstruction.

BACKGROUND

Intestinal obstructions following hysterectomies are usually caused by intra-abdominal adhesions or abdominal tumours.¹ To our knowledge, intestinal obstruction caused by a fallopian tube has been previously described once in the literature.² We present a case of intestinal obstruction that was caused by a strangulating remnant fallopian tube 16 years after ovarian sparing hysterectomy.

CASE PRESENTATION

A 61-year-old woman with a history of hysterectomy and ovarian preservation 16 years ago presented to the emergency department for increasingly severe

Figure 2 Oblique reconstruction with the line of axis parallel to the migrated fallopian tube demonstrates the tubular structure representing the migrated right adnexa in the abdomen (arrow) looping around a small bowel segment (arrowhead) and adherent to the transverse colon (asterisk).

Figure 1 Transaxial image of CT angiography of the abdomen showing a dilated and enhanced wall of transverse colon (asterisk) followed by an area of narrowing and swirling around the fallopian tube (arrowhead), suggestive of obstruction with internal hernia. Also, a small bowel loop (arrow) was strangulated by the fallopian tube.

and diffuse abdominal pain which started 3 days before presentation. The patient had abdominal distention but was not constipated or vomiting. She also did not have fever or chills. Her medical history includes hypertension and antiphospholipid syndrome for which she was taking aspirin and warfarin. On examination, her vital signs were within normal limits, and her abdomen was

Figure 3 Operative image of the migrated right ovary and fallopian tube in the abdomen.

To cite: Minhem M, Mohsen Y, Saade C, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-223123

Figure 4 Operative image of the right fallopian tube (grasper passing beneath it) wrapping around a small bowel segment.

distended, tympanic and diffusely tender with no other signs of peritonitis.

INVESTIGATIONS

Her laboratory profile showed a haemoglobin of 14.6 g/dL, a white cell count of $9,600 \times 10^9/L$, and an elevated international normalised ratio (INR) and partial thromboplastin time (4.5 and 52 s, respectively). Due to her history of antiphospholipid syndrome, CT angiography of the abdomen was ordered which ruled out mesenteric ischaemia; however, it showed large intestinal obstruction with narrowing and swirling at the level of transverse colon around a tubular structure that was suspected to be an adhesion band (figures 1 and 2).

DIFFERENTIAL DIAGNOSIS

At this point, our differential was partial intestinal obstruction possibly due to an adhesion band, internal hernia, mechanical obstruction or malignancy.

TREATMENT

The patient was admitted for monitoring, and was started on intravenous hydration, nothing by mouth and nasogastric decompression. She was not vomiting, and the nasogastric tube was draining minimal gastric secretion and was removed on the patient's request. Warfarin was stopped immediately then bridged to heparin on the second day as INR was declining (2.2).

Learning points

- ▶ The diagnosis and management of intestinal obstruction in patients with previous abdominal surgery and hypercoagulable state can be challenging. Ruling out intestinal ischaemia is of utmost importance in the initial phase of the management.
- ▶ A remnant fallopian tube following ovarian sparing hysterectomy can be a rare cause of small and large bowel obstructions. It can also be associated with internal hernia and colonic volvulus.
- ▶ Other rare causes of intestinal obstruction include gallstone ileus, intussusception, foreign bodies, bezoars, parasitic infections, endometriosis, vitelline duct remnant and hypercoagulable state.
- ▶ Managing the anticoagulation and the timing of surgery is crucial to control intraoperative and postoperative risks of bleeding.

On her third day of hospitalisation, the patient was not passing flatus and had worsening abdominal pain and persistent distention. Thus, the decision was made for laparoscopic exploration which revealed an inseparable, calcified and nodular tubular structure wrapping around a segment of obstructed terminal ileum. The tubular structure was identified as the right ovary and fallopian tube (figures 3 and 4). The ovary was stuck at the root of the mesentery causing a localised inflammatory reaction resulting in distortion of a segment of the transverse colon which was identified to be the reason of the colonic obstruction. The decision was made to convert to a midline minilaparotomy. The right ovary and fallopian tube were dissected of the root relieving the obstruction and a right salpingo-oophorectomy was performed. The left tube and ovary were inspected and were found to be normal.

OUTCOME AND FOLLOW-UP

The patient had a smooth postoperative course with no complications. Low molecular weight heparin was started on the first postoperative day then bridged to warfarin before discharge. The patient was discharged on the fourth postoperative day tolerating regular diet with normal bowel function. The histopathology showed an oedematous right fallopian tube with serosal fibrous adhesions and a normal ovary that were negative for malignancy. The patient did well on follow-up with no reported complications.

DISCUSSION

Mechanical bowel obstruction, which is a potentially life-threatening condition, comprises 15% of emergency hospital admissions due to abdominal pain.³ Common causes of bowel obstruction include adhesions, hernias, tumours, volvulus and strictures.^{4,5} Rarer causes of obstruction include gallstone ileus, intussusception, foreign bodies, bezoars, parasitic infections, endometriosis, vitelline duct remnant, internal hernias, abdominal cocoon, ileal duplication cysts, superior mesenteric artery syndrome and iatrogenic.^{5–14} Also, the senior author and surgeon (AH) had reported a rare case of small bowel obstruction caused by a Metamucil (psyllium-based bulk-forming laxative) bezoar.¹⁵ Moreover, Wang *et al*¹⁶ had reported a case of small bowel obstruction and intestinal necrosis that was caused by multiple mesenteric thrombi of small vessels finally revealing a diagnosis of antiphospholipid syndrome. Due to this condition, our patient had a CT angiography of the abdomen at presentation instead of unenhanced plain CT scan. However, her condition is unlikely to be related to her history of antiphospholipid syndrome as her bowel did not show signs of ischaemia or necrosis on inspection and returned to normal function postoperatively.

In our case report, we present a unique and rare case of bowel obstruction, which is the second reported to be caused by a remnant fallopian tube. Tee *et al*² were the first to report a case of large bowel obstruction, namely caecal volvulus twisting around a remnant fallopian tube from a previous remote hysterectomy. Similarly, our patient had both small and large bowel obstructions. The remnant fallopian tube wrapped around the small bowel segment causing small intestinal obstruction. Also, the inflammation surrounding the fallopian tube made it adhere and distort a segment of the transverse colon causing the obstruction noted on the CT scan.

Contributors MM contributed to the literature review and writing the manuscript. YM and CS contributed to providing and interpreting radiological images. AH is the senior surgeon who was involved in the clinical care of the patient and provided guidance in the writing process. All authors contributed to editing the manuscript and approved its final version.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

- 1 Al-Sunaidi M, Tulandi T. Adhesion-related bowel obstruction after hysterectomy for benign conditions. *Obstet Gynecol* 2006;108:1162–6.
- 2 Tee MC, Chandler T, Hlynsky J, *et al.* Images of cecal volvulus from a strangulating fallopian tube: a case report. *J Clin Med Res* 2011;3:258–61.
- 3 Irvin TT. Abdominal pain: a surgical audit of 1190 emergency admissions. *Br J Surg* 1989;76:1121–5.
- 4 Gore RM, Silvers RJ, Thakrar KH, *et al.* Bowel Obstruction. *Radiol Clin North Am* 2015;53:1225–40.
- 5 Griffiths S, Glancy DG. Intestinal obstruction. *Surgery* 2017;35:157–64.
- 6 Shatnawi NJ, Bani-Hani KE. Unusual causes of mechanical small bowel obstruction. *Saudi Med J* 2005;26:1546–50.
- 7 Lohn JW, Austin RC, Winslet MC. Unusual causes of small-bowel obstruction. *J R Soc Med* 2000;93:365–8.
- 8 Barbosa L, Ferreira A, Póvoa AA, *et al.* Left paraduodenal hernia: a rare cause of small bowel obstruction in the elderly. *BMJ Case Rep* 2016. doi: 10.1136/bcr-2015-209678. [Epub ahead of print: 16 Aug 2017].
- 9 Gupta A, Chakaravarthi K, Pattnaik B, *et al.* Duplication cyst of ileum presenting as acute intestinal obstruction in an adult. *BMJ Case Rep* 2016. doi: 10.1136/bcr-2016-214775. [Epub ahead of print: 6 Oct 2016].
- 10 Al-Azzawi M, Al-Alawi R. Idiopathic abdominal cocoon: a rare presentation of small bowel obstruction in a virgin abdomen. How much do we know? *BMJ Case Rep* 2017. doi: 10.1136/bcr-2017-219918. [Epub ahead of print: 6 Jul 2017].
- 11 Carlsson T, Gandhi S. Gallstone ileus of the sigmoid colon: an extremely rare cause of large bowel obstruction detected by multiplanar CT. *BMJ Case Rep* 2015. doi: 10.1136/bcr-2015-20965. [Epub ahead of print: 18 Dec 2015].
- 12 Goel MM, Verma N, Sagar M. Disseminated intra-abdominal hydatidosis causing acute intestinal obstruction--a rare presentation. *BMJ Case Rep* 2010. doi: 10.1136/bcr.2010.3066. [Epub ahead of print: 4 Oct 2010].
- 13 Bhandari TR, Shahi S, Gautam M, *et al.* A rare case report of patent vitellointestinal duct causing bowel obstruction in an adult. *Int J Surg Case Rep* 2017;39:231–4.
- 14 Zachariah SK. Wilkie's syndrome: a rare cause of intestinal obstruction. *BMJ Case Rep* 2014;2014:bcr2013203059.
- 15 Azar SA, Wehbe MR, Jamali S, *et al.* Small Bowel Obstruction secondary to a Metamucil Bezoar: Case report and review of the literature.
- 16 Wang QY, Ye XH, Ding J, *et al.* Segmental small bowel necrosis associated with antiphospholipid syndrome: a case report. *World J Gastroenterol* 2015;21:4096–100.

Copyright 2018 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow