CASE REPORT

An adhesion-related small bowel obstruction occurring within 36 h of a total abdominal hysterectomy and bilateral salpingo-oophorectomy

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SUMMARY

We present a case of adhesion-related small bowel obstruction occurring within only 36 h of a total abdominal hysterectomy and bilateral salpingo-oophorectomy. There has been no previously reported case where there has been such a short interval between surgery and adhesion-related small bowel obstruction. This is important to note, as it ensures that adhesion-related small bowel obstruction is on the list of differential diagnoses for patients who present very soon after surgery with symptoms such as abdominal pain and vomiting. It is also important as it allows the pathogenesis of adhesion formation to be reviewed in light of this rapid onset of adhesion formation and its complications.

BACKGROUND

Hysterectomies are one of the most commonly performed operations in the UK, with about 57 000 cases being performed last year. The formation of adhesions is a well-known complication of hysterectomy. Adhesions may be completely asymptomatic, or can cause problems such as chronic pelvic pain, infertility, small bowel obstruction and difficulty with further procedures.

We present a case of adhesion-related small bowel obstruction occurring within 36 h of a total abdominal hysterectomy and bilateral salpingo-oophorectomy. A literature search did not reveal any such previous case where adhesion-related small bowel obstruction has occurred within such a short time interval. The potentially very short time interval between surgery and adhesion-related small bowel obstruction is important to take into account, as this could impact the differential diagnoses of patients presenting postoperatively.

CASE PRESENTATION

A 48-year-old woman presented to A&E department with 1-day history of abdominal pain on a background of total abdominal hysterectomy and bilateral salpingo-oophorectomy 2 days previously for menorrhagia secondary to a large fibroid uterus. Prior to discharge, she had mobilised, was eating and drinking and had opened her bowels. The pain was severe, generalised, colicky in nature and associated with two episodes of vomiting. Bowels had last been opened on the day of discharge. Examination revealed diffuse generalised abdominal tenderness with no guarding or rigidity. Bowel sounds were present. Haematological investigations

were within normal limits save for an isolated C reactive protein of 26 mg/L and an alanine transaminase of 118 IU/L. Chest and abdominal radiographs did not reveal any abnormalities. Despite conservative management, involving being kept nil by mouth, analgesia, intravenous fluids and a nasogastric tube, she failed to improve. She therefore went on to have a CT of her abdomen and pelvis, which revealed dilated loops of the small bowel up to the distal ileum, at the site of anastomosis of the previous surgery, suggestive of mechanical small bowel obstruction. She underwent a laparotomy on the fifth day of admission. The Pfannenstiel incision was reopened, and there were found to be adhesions between the vaginal stump and the terminal ileum at two sites, with dilated loops of the bowel above this point. These adhesions were successfully divided. In total 700 mL of clear fluid was drained from the site of obstruction. Monopolar diathermy was used during the operation and there was no apparent bowel injury. Postoperatively, she became septic and was treated with intravenous antibiotics with a good recovery.

DISCUSSION

Hysterectomies are one of the most commonly performed operations in the UK, with about 57 000 cases being performed last year. The formation of adhesions is a well-known complication of hysterectomy. Adhesions may be completely asymptomatic, or can cause problems such as chronic pelvic pain, infertility, small bowel obstruction and difficulty with further procedures.

The pathogenesis of adhesion formation is complex and still not fully understood. Following surgical trauma, there is disruption of mast cells which release vasoactive substances. An inflammatory response is evoked, thereby promoting pro-coagulatory and antifibrinolytic reactions. This results in increased fibrin production and deposition. Surgical injury also reduces or eliminates blood flow to the involved tissue, thereby producing an ischaemic state, leading to local persistence of the fibrin matrix. This matrix is gradually replaced by vascular granulation tissue containing macrophages and fibroblasts. No new adhesion formation is said to occur after day 7 following surgical trauma. With normal healing, fibrinolytic activity should break down any fibrinous exudates within 72 h, preventing the formation of adhesions.^{1–3}

Adhesions following gynaecological surgery are a major cause of morbidity, with 34.5% of patients

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being readmitted at some point due to an adhesion-related problem.⁴ Small bowel obstruction is one of the most significant complications of adhesions and small bowel obstruction after a total abdominal hysterectomy has a median time interval of 4 years. A literature search found no study which compared the time periods between surgery and adhesion-related small bowel obstruction.

However, two large retrospective studies have found that readmission to hospital for an adhesion-related problem occurred within the first year postoperatively in only 16%⁴ to 22.1%⁴ of cases. This report presents a case where adhesion-related small bowel obstruction occurred within only 36 h. There are no previous reports of bowel obstruction occurring secondary to adhesions in such a short time frame. This is important to note, as it ensures that adhesion-related small bowel obstruction is on the list of differential diagnoses for patients who present very soon after surgery with symptoms such as abdominal pain and vomiting. It is also important as it allows the pathogenesis of adhesion formation to be reviewed in light of this rapid onset of adhesion formation and its complications.

Of all gynaecological operations carried out for benign conditions, total abdominal hysterectomy has been shown to carry the highest risk of developing adhesion-related bowel obstruction (1.36–4.5/100).^{4–5} This risk of adhesions is thought to be reduced in laparoscopic procedures as compared to open procedures due to the less invasive nature of the procedure.⁶ Adhesions can cause an array of complications, and therefore it is important to take any measures possible to reduce the risk.

Measures to reduce the formation of adhesions include

- ▶ Careful surgical technique to prevent tissue trauma. This includes achieving meticulous haemostasis, minimising the risk of infections and avoiding any foreign body retention where possible.⁷
- ▶ Antiadhesive agents.

A Royal College of Obstetricians and Gynaecologists scientific paper has recommended that adhesion barriers should be considered for patients at high risk of forming clinically significant adhesions. It showed that there was evidence to suggest the use of hyaluronic acid derivatives, polyethylene glycol based derivatives and solid barrier agents derived from oxidised regenerated cellulose.

Learning points

- ▶ Adhesions are a major cause of morbidity after gynaecological surgery. It is important to take measures to reduce this risk and the associated complications. This includes carrying out procedures via a laparoscopic approach where appropriate, careful surgical technique and the use of antiadhesive agents where appropriate.
- ▶ Adhesion-related bowel obstruction can occur in as short a time period as 36 h after an open surgery such as a hysterectomy. It is therefore important to always consider adhesion-related small bowel obstruction following a surgery, regardless of how short the time period is.
- ▶ The rapidity with which the adhesions formed and caused bowel obstruction may be able to add to the current understanding of the pathogenesis of adhesions.

Competing interests None.

Patient consent Obtained.

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