CASE REPORT

Emergency surgery for intestinal obstruction revealing ileal Crohn's disease (CD) during pregnancy

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SUMMARY

Few data are available regarding emergency surgery for Crohn's disease (CD) during pregnancy. A 22-year-old woman, at 26 weeks of pregnancy, was admitted for premature labour, intestinal obstruction and systemic inflammation. Biology and ultrasonography were not helpful; imaging was completed with a CT scan, which confirmed the mechanical ileal obstruction. The intestinal obstruction worsened and led to emergency surgery. An inflammatory stenosis of the terminal ileum with two fistulas was found. An ileal resection and ileostomy were performed. The pathological analysis of the resected specimen confirmed CD. The postoperative course was uneventful. The delivery of a baby with normal weight and status occurred at term (40 weeks of amenorrhoea). There have been only 10 case reports of intestinal complications revealing CD during pregnancy. The delay in diagnosis and adequate treatment led to significant maternal and fetal morbidity and mortality. This case suggests that intestinal surgery for CD is feasible during pregnancy and may be associated with a favourable outcome for the baby as well as for the mother.

BACKGROUND

The peak age of onset of inflammatory bowel disease is during the second or third decades. Therefore, women of childbearing age are at risk of a first Crohn's disease (CD) or ulcerative rectocolitis flare.

The diagnosis of inflammatory bowel disease with a severe complication requiring emergency surgery is rare.

Moreover, a diagnosis of inflammatory bowel disease during pregnancy is exceptional because it is acknowledged that pregnancy does not increase the risk of onset or recurrence when the disease is controlled before conception.

This case reports the peroperative discovery of an occlusive CD, which went unnoticed for several weeks, in a 22-year-old pregnant woman.

CASE PRESENTATION

A 22-year-old woman at 26 weeks of amenorrhoea was hospitalised in the obstetrical unit for premature labour for 2 weeks. During the first part of her pregnancy, she gained no weight because of anorexia. She had two liquid stools per day for several weeks, and abdominal pain as well as vomiting for 2 weeks before admission. At palpation, there was diffuse, mild abdominal pain.

Figure 1 Non-injected abdominal CT scan. 1, Fetus; 2, dilated ileal loop; 3, stenosis.

INVESTIGATIONS

C reactive protein was 150 mg/L. Abdominal ultrasonography showed ileal obstruction, a small peritoneal effusion and sludge in the gallbladder without sign of cholecystitis or dilation of the bile ducts. The intestinal obstruction worsened. An abdominal CT scan was performed and showed an ileal obstruction with a prestenotic dilation ([figure 1](#)).

DIFFERENTIAL DIAGNOSIS

Gastroenteritis was a possibility, but the patient's symptoms continued for 2 weeks without amelioration. However, it could have been acute appendicitis, however, in that case, the patient's clinical state without antibiotics would have worsened quickly and she would have had a fever.

TREATMENT

A laparoscopy was performed with 10 mm Hg insufflation and a slight left lateral decubitus. The exploration of the abdomen was difficult and it was decided to convert to a median laparotomy. An inflammatory stenosis of the terminal ileum associated with two fistulas (1 ileoileal and 1 ileosigmoid) was found. An ileal resection of the terminal ileum removing the first fistula, a suture of the sigmoid fistula and a terminal ileostomy were performed. Fetal monitoring was normal during the operation.

OUTCOME AND FOLLOW-UP

The postoperative course was uneventful except for an anaemia (7.4 g/L) and tachycardia with micro-

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oscillating fetal rhythm on the third day after surgery. The subsequent course was favourable. The patient gained 10 kg without specific medical treatment. No medical treatment for the newly diagnosed CD was introduced because of the ongoing pregnancy. The patient delivered a normal baby boy weighing 3450 g at 40 weeks of amenorrhoea complicated by a stomal prolapse. An ileocolonic anastomosis was performed 1 month after the delivery and no other CD lesion was found during the colposcopy. The postoperative course was again uneventful.

DISCUSSION

The diagnosis of CD during pregnancy is difficult. This may delay the adequate management of the mother and aggravate the fetal prognosis. To manage such an emergency safely, these patients have to be transferred to centres specialised in inflammatory bowel disease surgery with a level 3 maternity department because of the high risk of extremely preterm babies.

We are aware of 10 cases of CD diagnosed during pregnancy.^{1–8} One patient had a pancolitis and anal fistulas diagnosed at 8 weeks of amenorrhoea, treated successfully with medical treatment.⁹ Five patients required surgery for peritonitis after failure of medical treatment during the first CD flare. Two patients had ileitis and abscesses, and 2 cases were preterm deliveries with postpartum surgery. Among the 10 cases, only one of the births was not premature (28–36 WA); and 2 died. Maternal postoperative complications were also seen: three pelvic abscesses, one wound infection and one fistula.

In these 10 cases, the fetal mortality rate was 20% (2/10), the miscarriage rate 10% and 7/10 were preterm. The maternal morbidity rate was 50% (5/10) including 30% abscess, 10% wound infection and 10% anastomotic dehiscence. The need for intestinal resection is associated with a high risk of maternal and fetal complications.¹⁰ If possible, it is recommended to plan surgery during the second trimester of pregnancy and to delay bowel anastomosis because of the dramatic outcome of a fistula in this setting.¹¹

CT scan can be performed during the third trimester, but the patient has to be informed of the very low but existing risk for her child (organogenesis is already completed) of CT irradiations compared to the short-term risk of an intestinal obstruction. Performing a CT scan during pregnancy has to be a multidisciplinary decision involving the surgeon, the radiologist, the obstetrician and the patient. Ultrasonography is the gold standard imaging procedure during pregnancy, however, it is not very effective for bowel investigation and even worse during the third trimester because of the uterus avoiding a complete abdominal and pelvic exploration. In this case of intestinal obstruction, with the absence of medical and surgical history, CT scan appeared to be the best diagnostic imaging procedure before performing surgery.

Regional Medical Imaging is a safe and accurate imaging alternative during pregnancy. Abdominal MRI or MR enterography are more informative than CT scan, especially for inflammatory bowel diseases.¹²

Some other non-invasive biological tools such as calprotectin or lactoferrin dosages can be helpful in practice out of emergency.¹³

Laparoscopy can be safely performed during pregnancy. The pneumoperitoneal pressure should not exceed 12–14 mm Hg because of the risk of fetal hypercapnia and decrease in blood pressure within the placenta.⁸ Fetal heart activity should be monitored before and after insufflation of the pneumoperitoneum. Some recommend a per operative transvaginal ultrasonography,⁸ per operative monitoring of the contractions of the uterus¹⁴ and the use of tocolytics. The level of the incision

should be adapted to the volume of the uterus (at 20 WA the uterus reaches the umbilicus) and proceed to an open laparoscopy systematically instead of using a Veress needle, to avoid uterus puncture.^{2,8}

Primary anastomosis is not recommended during pregnancy because of the dramatic outcome in case of per partum anastomotic fistula.¹¹ The optimisation of the CD medical management is preferred to surgery in non-life-threatening situations, especially in cases of ileitis or colitis, but could not be considered in this case of obstructive intestinal stenosis.

Learning points

- The management of complicated Crohn's disease (CD) during pregnancy is difficult and must be carried out by specialised teams. In this case, inflammatory bowel disease should have ideally been diagnosed before surgery in order to start medical treatment. Steroids could have solved intestinal obstruction or at least delayed surgical procedure for several weeks, with a lower risk of premature birth. The delay in performing the adapted treatment is the most important factor of prognosis for the mother and her child. This case suggests that intestinal surgery for CD is feasible during pregnancy and may be associated with a favourable outcome.
- The absence of weight gain during pregnancy associated with liquid stools should have led to the performing of further investigations to make the CD diagnosis and start appropriate medical treatment, and would have probably avoided the surgical procedure for intestinal obstruction.

Competing interests None declared.

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