

Ogilvie Syndrome with Cecal Necrosis Following Cesarean Section Due to Twin Pregnancy: A Case Report

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Introduction

Acute colonic pseudo–obstruction or Ogilvie syndrome (OS) is a rare condition characterized by progressive dilatation of cecum and right colon in the absence of any mechanical obstruction and with possible high mortality rate (1). It usually occurs in a setting of recent serious medical illness, severe electrolyte disturbance or surgical procedure (2).

With the increasing rate of cesarean section (C/S), there have been some reports of OS among obstetric patients. We present a case of OS after an uneventful C/S for twin pregnancy which resulted in cecal necrosis.

Case Presentation

A 32–year–old second gravida woman with a dichorionic–diamniotic breech–cephalic twin pregnancy referred to our hospital because of labor pain at 37 weeks of gestation. On primary vaginal exam the cervix was 4 cm dilated. An emergency lower segment C/S was performed with 0.5cc of 50% solution bupivacaine injected in L4–L5 lumbar space for spinal anesthesia. The operation was uncomplicated and uneventful and two healthy infants –a baby boy weighting 3300 gr and a baby girl weighting 2000 gr were delivered.

The patient was allowed to eat 12 hours postope-

ratively, when she had normal bowel sounds. Diclofenac suppository was administered for post operative pain relief. She had an episode of normal defecation and gas passage in the first 24 hours. However 72 hours after surgery the patient complained of abdominal pain and inability to pass flatus. Although her vital signs were stable, the abdomen was grossly distended. Her electrolyte levels were also within normal limits.

With the primary impression of paralytic ileus, she was kept nil by mouth, intravenous fluids were started and nasogastric and rectal tubes were also placed. She showed a temporary improvement in signs and symptoms with this conservative management. Some hours later she complained of abdominal pain again. In serial examinations, she developed progressive abdominal distention and tenderness in the right side of the abdomen accompanied by a low grade fever, tachycardia and mild leukocytosis. A plain abdominal X–ray was performed, which revealed a marked right side colonic distension, especially in cecum. Therefore, prompt consultation with general surgeon was performed and according to the signs and symptoms of an acute abdomen she underwent emergency laparotomy.

At laparotomy gross bowel distension in the site of cecum and proximal ascending colon to the diameter of 10 cm was observed. The colon wall was absolutely necrotized in this area but there were no sites of perforation. Transverse colon was slightly dilated but without any necrosis. A limited right hemicolectomy with primary end–to–end anastomosis was performed. A complete abdominal exploration revealed no mechanical obstruction or any other pathological findings.

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Postoperatively the patient made an excellent recovery and was discharged 10 days after the procedure, with no further complications. The histology of the resected colon showed necrosis and mild inflammation, confirming the diagnosis of OS.

Discussion

C/S seems to be the most common operative procedures associated with OS in women of childbearing age (3). The frequency has not been well established, but by 1991, 362 cases of OS were published, and 35 cases of these occurred after C/S (4).

The exact pathophysiology of this syndrome is not clearly understood and it seems to be multifactorial. According to the most common acceptable theories, an imbalance in the autonomic innervations of the colon leads to a functional bowel obstruction (2, 5).

The cecum—which has the greatest bowel diameter requires the smallest amount of pressure to increase in size and in wall tension (6). The progressive dilatation of cecum leads to necrosis and perforation of this organ which results in a high mortality rate of 12–30% in cases without perforation and 43–50% in cases with perforation (7). One explanation for autonomic imbalance during C/S is that the parasympathetics S2 to S4 nerves pass in close proximity to the cervix, vagina and broad ligament so they could be injured during surgery (8).

Some authors suggested some probable factors that may lead to OS in obstetric patients, according to their isolated case reports or small case series. In a series of 7 patients with OS after C/S, it is reported that all patients had prolonged labor before C/S which was complicated by bleeding and all were treated with syntocinon (9). However, OS has also been reported after elective C/S following an uneventful pregnancy (10) and in elective uncomplicated C/S due to pre-eclampsia (11, 12), placenta previa (13) and multiple pregnancy (12, 14, 15). Also in our case C/S was done due to twin pregnancy. It could be considered that the overdistended enlarged uterus in this case and similar ones, may cause excess pressure on the parasympathetic plexus leading to autonomic innervations disturbance.

OS may also be induced by some medications commonly used in obstetrics, such as syntocinone which may influence gastrointestinal motility or magnesium sulfate which may disturb the bowel innervations (9, 16). Using significant amounts of narcotics in post C/S patients may also decrease bowel motility.

Our patient underwent regional anesthesia, which

is very common in obstetric patients, and has been associated with OS in postoperative period (15).

Patients with OS suffer from abdominal pain, nausea and vomiting, obstipation and fever. Importantly, intermittent passage of flatus and stool, as it happened in our patient, does not rule out the diagnosis of OS (9). Marked abdominal distention is the most common physical finding (90–100%). Bowel sounds may range from hyperactive to absent.

Abdominal tenderness may indicate impending perforation or ischemia (2). In order to perform appropriate diagnosis and treatment, it is important for an obstetrics surgeon to differentiate OS from the reversible and self limiting paralytic ileus, which is a common condition after C/S. Significant mortality rate has been reported when the initial diagnosis was paralytic ileus and there was a delay in diagnosing colon perforation (14).

Unlike OS which is specific to the colon, paralytic ileus can be generalized. The patient with paralytic ileus has absent bowel sounds and nausea and vomiting are more common. Also OS takes longer to develop and much longer to resolve (15).

In patients suspicious to OS, plain abdominal X-ray is the most important and reliable diagnostic study and should not be delayed even if the bowel sounds are normal. X-ray (serial films if needed) shows severe dilatation of the colon usually involving cecum, ascending and transverse colon (7,11, 17). Other diagnostic tools include CT scan, gastrografen enema and colonoscopy (2).

With the cecal diameter less than 9–12 cm (18) and with no evidence of ischemia or perforation use of a conservative treatment protocol is indicated which consists of keeping patient nil by mouth, replacement of intravenous fluid, correction of electrolyte imbalance, discontinue narcotics and drugs that influence bowel activity, using nasogastric decompression, placement of a rectal tube and administer enema therapies (2, 15). Intermittent rectal examinations, changing patient's position frequently from side-to-side and placing a pillow under the pelvis have also been suggested (18, 19).

Acetylcholinesterase inhibitors such as neostigmine (1–2 mg IV/SC, repeated in 3 h if needed) may also improve patient's symptoms (20). Colonoscopic decompression of the colon is another useful method which may prevent subsequent bowel perforation (2).

The cecal diameter greater than 9–12 cm emerges prompt laparotomy. In the absence of perforation or ischemic bowel, cecostomy is the procedure of choice.

In the cases of perforation or patchy necrosis of the colonic wall in a wide area (as in our patient) resection with or without primary anastomosis is absolutely indicated (7, 11).

Although OS following C/S is a rare complication, with the increasing rate of C/S, the obstetricians may face this situation more frequently in the future. Data are still limited about the exact pathophysiology and therefore about the best preventive, diagnostic and treatment approach to this syndrome. But based on the current data, it is reasonable to say that the best way to prevent OS after C/S is to limit the rate of the cesarean sections which are done without definite obstetric indications. We also suggest avoiding the excess narcotic administration after C/S.

In order to high mortality rate, the early diagnosis and treatment of OS is vital. The obstetricians should be aware of the possibility of this syndrome following C/S in patients with progressive abdominal distention. Paying attention to the possible risk factors in obstetric patients (e.g. multiple pregnancies) may also increase surgeon's awareness. Early diagnosis based on patient's history, serial clinical assessments and early plain abdominal X-ray is the key to success. The early cooperation between the obstetrician and an experienced general surgeon is also essential.

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