Ogilvie’s syndrome after caesarean section - a dangerous misdiagnosis

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Abstract

Ogilvie’s syndrome is a clinical condition that mimics all feature of large bowel obstruction, but with no mechanical cause. If untreated, the condition has a high mortality rate due to rupture and ischaemic perforation of the bowel. We present a case of Ogilvie’s post-caesarean section and emphasis the correct management.

Key clinical message:

Ogilvie’s syndrome must be suspected in cases of post-caesarean section abdominal distension as it may be misdiagnosed as paralytic ileus. Awareness of the risk of bowel perforation and the role of imaging in assessing morbidity is essential.

Keywords:
Caesarean-section; Ischaemia; Obstruction; Ogilvie’s Syndrome; Postoperative Complications

Background:

Ogilvie’s syndrome is a poorly understood syndrome characterized by signs of large bowel obstruction without a mechanical cause (1). This condition usually develops in hospitalized patients and is associated with a range of medical and surgical conditions. The syndrome presents with massive colonic distension, that may lead to bowel perforation or ischaemic rupture which may be missed. Hereby, we report a case of a 26-year-old gravida 3 para 2 patient, who suffered from spasmodic bowel pain following surgery with symptoms mimicking that of ileus. We discuss the difficulties in making the diagnosis and emphasise the importance of prompt diagnosis in order to be able to monitor for life-threatening complications.

Case History:

A 26-year-old gravida 3 para 2 patient from the middle east with a history of one previous caesarean section was admitted in labour. She had an unremarkable antenatal period and was counselled regarding the mode of delivery, opting for a trial of normal mode of delivery. At 8 cm dilatation the cardiotocography became abnormal and a decision for emergency caesarean section was made. The caesarean section was done under general anaesthetic and was uneventful. An oxytocin infusion was started postpartum to maintain uterine contraction. The patient has remained stable throughout the operation and in the recovery room. In the postoperative period the patient was asymptomatic with stable vital signs, her abdomen was soft and lax, bowel sounds were audible, her uterus was contracted, and the lochia was normal.

Approximately 48 hours postoperatively, the patient complained of spasmodic pain in the right hypochondrium and abdominal distention, bowel sounds were still audible, and the patient reported passing flatus and a bowel motion. There was no vomiting and the vital signs remained stable. The patient reported the same symptoms of distension and spasmodic pain on the third postoperative day despite mobilization and provision of laxatives and enema.

On the fourth postoperative day the patient became distressed with pain and increasing abdominal distension, her pulse rate was 105bpm and bowel sounds became sluggish with mild abdominal tenderness. A working diagnosis of paralytic ileus was started, complete blood count and urea and electrolytes were requested, a plain erect abdominal X ray was ordered, and the patient was kept nil per mouth with an intravenous fluid crystalloid (normal saline) infusion with an input-output fluid chart.

The laboratory investigations were normal, but the plain X ray revealed markedly dilated large bowel loops suggestive of intestinal obstruction (Fig 1) and surgical input was requested.

The surgical team made a provisional diagnosis of paralytic ileus, and they advised to maintain the conservative management and inserted a nasogastric tube - which did not show any significant drainage. Despite multidisciplinary engagement, the patient was originally misdiagnosed, irrespective of X-ray evidence pointing to a large-bowel pathology. Due to the more prevalent frequency of paralytic ileus and the lack of clinical knowledge of Ogilvie’s syndrome, raising awareness of this disorder is critical.

They also requested a CT scan abdomen and pelvis with contrast. The CT scan revealed markedly dilated bowel, particularly of the right side of the colon with multiple air-contrast levels. The oral contrast was seen reaching to the rectum with no evidence of mechanical obstruction – indicating a possibility of acute colonic pseudo-obstruction (Fig 3).

The plan was to continue the conservative management with regular check of vital signs, fluid balance chart and daily check of CBC, and urea and electrolytes. Apart from mild hypokalaemia on the fifth postoperative day which was managed by potassium replacement, the patient remained stable and afebrile with no signs of infection or peritonitis.

On the sixth postoperative day the patient had a proper bowel motion, the distension and pain had improved, and normal bowel sounds resumed. The NG tube was removed, and the patient was allowed light soft diet that she tolerated.
She was then discharged on the seventh postoperative day and made an uneventful recovery.

**Discussion:**

Acute colonic pseudo-obstruction (ACPO) was first described by Sir W.H Ogilvie in 1948, who then subsequently became the eponym of the condition. It is a poorly understood syndrome characterized by signs of large bowel obstruction without a mechanical cause (1). This condition usually develops in hospitalized patients and is associated with a range of medical and surgical conditions. The syndrome presents with massive colonic distension in the absence of mechanical obstruction (80-90%), abnormal tenderness (62%), nausea and/or vomiting (60%), obstipation (40%), and fever (37%) (2). Factors that have been associated with the syndrome include surgery, infection, electrolyte disturbance, connective tissue & cardiac diseases, and medications – corticosteroids, syntocinon, opioids etc (3). The true incidence of ACPO is unknown, but a large case series (2) estimated that ten percent of the cases occur in obstetrics patients.

Ogilvie’s syndrome is a serious condition that can be relatively easily misdiagnosed – with a patient’s presentation ascribed to both minor conditions such as functional constipation, and major conditions like mechanical obstruction. Though it is a rare condition, the importance lies in its ability to cause dangerous complications in affected patients with a high mortality rate. Indeed, significant morbidity and mortality from ACPO has been reported when there is misdiagnosis, most commonly paralytic ileus, and a delay in the diagnosis of bowel perforation. It is important for the emergency physician to be familiar with this entity and its management in order to avoid unnecessary morbidity in these cases (4).

The importance of ACPO in obstetrics is further underlined by the UK Confidential Enquiry into Maternal deaths report (2000-2002) which reported three deaths from the condition during that triennium. Notably, after the condition was discussed in the CEMACH report, in the next triennium there were no reported deaths from the condition (5). Untreated or inadequately managed cases may result in ischaemic necrosis and colonic perforation in up to 15% of cases resulting in a mortality rate of around 50% (6).

Since being description by Ogilvie in 1948, a number of reports have been published. Of these reports only three came from the middle east (7), and only one of these three cases was post caesarean section (3), which may give the impression that the genotype of the Arabian population protects them from the above disease entity.

The suggested pathophysiology is the imbalance in the autonomic nerve supply to the colon (8). The parasympathetic nervous system promotes gut motility through the vagus and sacral parasympathetic nerves (S2-S5), while sympathetic stimuli inhibit bowel peristalsis. Imbalance in parasympathetic and sympathetic tone leads to reduced colonic motility and functional bowel obstruction. Although the caecum is the usual site of dilatation, all parts of the colon can be affected (3). The condition has been described more commonly in males, in the elderly, and following surgical interventions (particularly pelvic) and in the context of non-operative trauma (2).

In obstetric practice ACPO has been reported to occur in women having a vaginal delivery, instrumental delivery and also antenatally with complicated pregnancies (9) (10). However, the most common clinical scenario seen is in women after caesarean section (11). Typically, patients present with symptoms of increasing abdominal pain (reported in 80% of cases). In these patients’ nausea, abdominal distention, and failure to pass flatus or stools should raise suspicion of the condition. The onset of these symptoms may vary from as early as day 2 to 12 days after delivery (11).

Once the condition is suspected clinically, it should be confirmed radiologically. Colonic dilatation of more than 10 cm is a significant marker of morbidity (12). A plain abdominal X ray is the most useful investigation to perform. It is imperative to rule out a mechanical or other cause of obstruction or infection with C difficile (toxic megacolon). Presence of gas shadows in rectum is the definitive evidence, which rules out any mechanical obstruction. In the absence of rectal gas shadows with high clinical suspicion of Ogilvie syndrome, a radiographic enema is all that is required to rule out distal obstruction (13).
The most feared complication of Ogilvie’s syndrome is cecal perforation, which is fortunately rare, occurring in only 1-3% of patients but is associated with higher morbidity and mortality (7).

The presenting symptom in our case - abdominal pain with progressive abdominal distention and hypoactive bowel sounds - alerted the team about the possibility of paralytic ileus. But the plain X ray abdominal film (Fig 1) and the CT scan abdomen with contrast (Fig 2) showing cecum and colon dilatation without air-fluid levels, and the absent causes of mechanical obstruction confirmed the rare diagnosis of Ogilvie’s syndrome. It is agreed in the literature that less than 10 cm dilatation of the cecum and colon in absence of evidence of ischaemia or bowel perforation is considered an indication for non-surgical treatment (14).

Successful resolution is achieved in 83-96% of patients within 2-6 days of initiating therapy. In our case, correction of the fluid and electrolyte balance, NG tube suction, enema and laxatives were sufficient to control the patient’s symptoms and to revert the condition. Colonoscopic decompression with or without placement of indwelling tube, was considered our next step of management in case the patient’s condition had not improved.

Pharmacologic management with parasympathomimetic drugs enhancing gut motility has been described with success in the treatment of Ogilvie’s syndrome and might have been attempted in the above case (15).

Conclusion:

We have presented the second case of post caesarean section acute colonic pseudo-obstruction in the middle east. We emphasise the importance of the consideration of Ogilvie’s syndrome when there is suspected large bowel obstruction with no mechanical cause found. Knowledge of the risk of bowel perforation and the role of imaging in assessing morbidity risk is essential in this condition. Further, due to relatively unknown nature of Ogilvie’s syndrome among physicians, awareness of it can be live saving.

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Figure legends:

**Fig (1):** X-ray abdomen revealing markedly dilated large bowel loops, suggesting pathology of large bowel nature.

**Fig (2):** CT scan of the abdomen showing markedly dilated bowel loops, with emphasis on the right side.

**Fig (3):** Transverse CT scan of the abdomen with contrast showing markedly dilated large bowel loop with multiple air-contrast levels. Oral contrast can be seen reaching the rectum with no evidence of mechanical obstruction. This is suggestive of a non-mechanical cause of large bowel obstruction.