

Post cesarean section acute colonic pseudo-obstruction (Ogilvie syndrome): A case report

W. Carlino, H. Hanna, O. Eskandar

ABSTRACT

Introduction: Acute colonic pseudo-obstruction (ACPO), also known as Ogilvie syndrome is a condition characterized by massive colonic distension in the absence of mechanical obstruction. In female patients, it has an association with cesarean section. Ogilvie syndrome is a rare and therefore infrequently reported condition. However, it can be associated with serious morbidity and mortality. **Case Report:** A 33-year-old female developed Ogilvie syndrome quickly after an emergency cesarean section. She was managed conservatively with a prokinetic (drug which enhances gastrointestinal motility) following confirmation of an acute colonic pseudo-obstruction on computed tomography scan and she made a full recovery. **Conclusion:** Mortality rates from Ogilvie syndrome are quoted as between 36–50% when bowel perforation or ischemia develops. Clinicians should be aware that ACPO can complicate cesarean sections. Mechanical obstruction should be excluded by radiological imaging including X-ray and computed tomography scan. A prompt management plan should be in place and we suggest a logarithm to manage such cases. This case illustrates the

importance of early diagnosis and management as well as effective communication between the surgical and obstetric team.

Keywords: Acute colonic pseudo-obstruction, Ogilvie syndrome, Post cesarean

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INTRODUCTION

We present a case of Ogilvie syndrome following emergency cesarean section. This condition can be associated with serious morbidity and mortality. It typically occurs following a severe illness or surgery, recent cardiac events and can be associated with metabolic imbalances and underlying infection.

This case was managed conservatively with a prokinetic (drug which enhances gastrointestinal motility) following confirmation of an acute colonic pseudo-obstruction on computed tomography scan and she made a full recovery.

We highlight the significance of the Acute colonic pseudo-obstruction (ACPO) particularly postoperatively after cesarean section. Clinicians should be aware of the condition to enable them to put a prompt management plan. We suggest a logarithm to manage such cases (Figure 1). This case illustrates the importance of

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CASE REPORT

A 33-year-old, primiparous female who was admitted at 39⁺² weeks gestational age with pregnancy induced hypertension (PIH). The pregnancy had previously been unremarkable. Laboratory examination of the patient revealed decreasing hemoglobin 98 g/l and platelets 114x10⁹/l. Her liver function tests was normal. There was no evidence of proteinuria on her urine dip. The PIH was initially managed with labetalol. The following day an induction of labor was commenced with Propess (dinoprostone vaginal delivery system). Following a labor complicated by failure to progress and an acute kidney injury (AKI) the creatinine was 154 umol/L and eGFR was 38.5 with oliguria, a grade II emergency cesarean section was performed. The cesarean section was uncomplicated and uneventful. A live 3370 g female infant was delivered with no subsequent complication.

Following delivery the mother developed a low grade temperature of 37.5°C and was managed as a possible maternal sepsis with meropenem 500 mg IV QDS and

clindamycin 600 mg IV QDS. In light of her prior AKI, her fluid balance was also carefully monitored.

After 10 hours post-partum the mother developed gross abdominal distension and an inability to pass flatus. On examination her temperature remained mildly elevated at 37.5°C, a respiratory rate of 23/min, oxygen saturations was 96% on air and she was tachycardiac at 108/min. Her blood pressure was stable. Her abdomen was tense and distended with sluggish bowel sounds. It was planned to carefully observe her and permit clear fluids orally. After 24

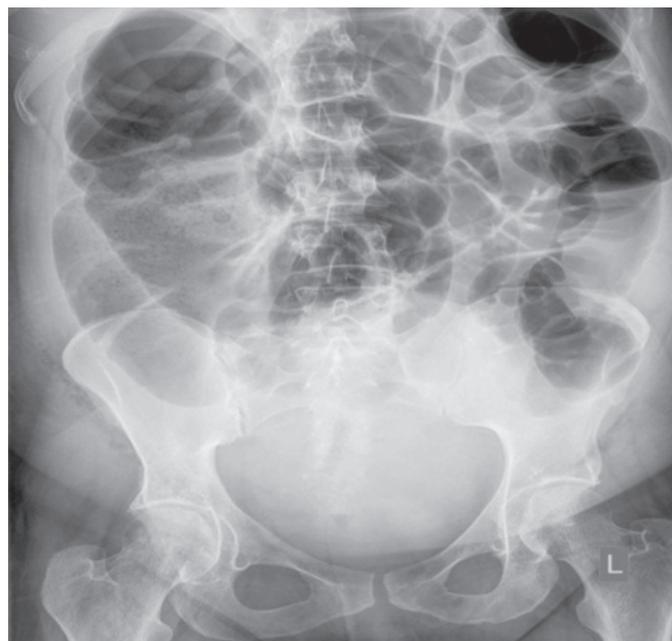


Figure 2: Abdominal X-ray demonstrating marked gaseous distension of both small and large bowel.

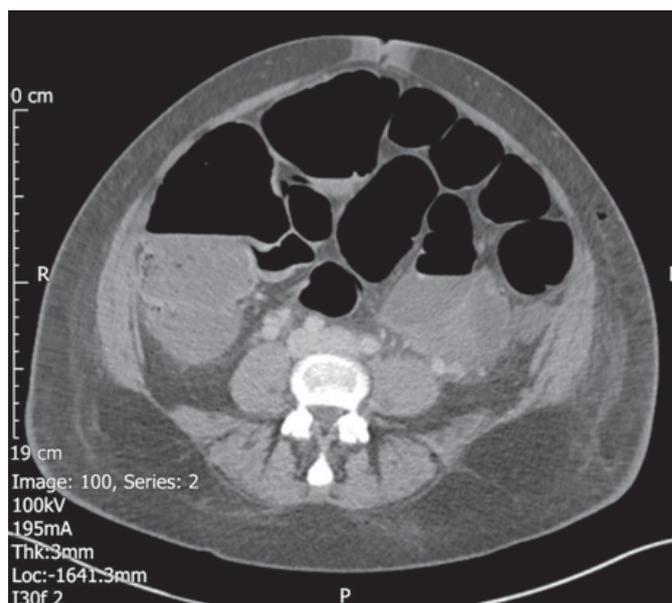


Figure 3: Computed tomography scan showing extensive bowel distension.

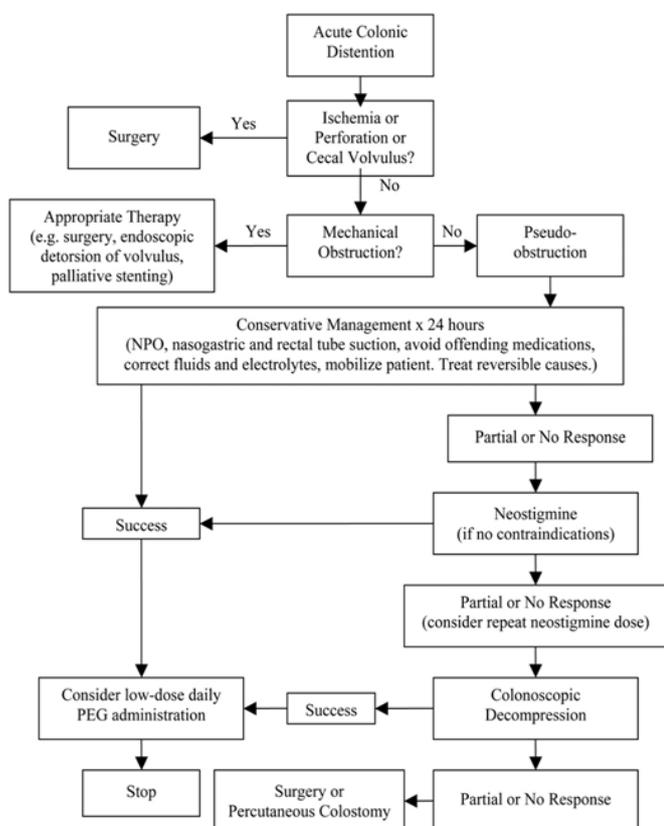


Figure 1: Algorithm of management of post-cesarean section acute abdominal distension.

NPO: nil per os (nothing by mouth)
 PEG: Polyethylene Glycol, laxative

hours, she began feeling much better but her abdomen remained distended with no flatus passed. She was passing good volumes of urine and her kidney function was returning to normal.

The abdominal distension persisted into day-2 postpartum at which point she began vomiting. She was made nil by mouth, a nasogastric tube was sited, an abdominal X-ray was performed (Figure 2) and a surgical consultation requested. Abdominal X-ray showed marked gaseous distension of both the small and large bowel.

Computed tomography scan was subsequently performed (Figure 3) which showed dilated colon to the level of the sigmoid colon. The patient managed with a prokinetic metoclopramide and was given 2 units of packed red blood cells which significantly improved her condition. After 24 hours, the patient began passing flatus and her bowels opened. The patient self-discharged four days later.

DISCUSSION

Acute colonic pseudo-obstruction is characterized by acute colonic dilatation in the absence of any identifiable mechanical cause for bowel obstruction. It typically occurs following a severe illness or surgery, recent cardiac events and can be associated with metabolic imbalances and underlying infection [1, 2].

In a large, retrospective series that included 400 patients with ACPO, non-operative trauma, infection, and cardiac disease were most commonly implicated [1]. However, a more recent review reported cesarean section and hip surgery as being the procedures most commonly associated with ACPO.

Ogilvie syndrome normally affects the cecum and right hemicolon, although occasionally colonic dilation extends to the rectum. The exact mechanism which causes the colonic dilatation is unknown, however, the association documented with trauma, spinal anesthesia and pharmacological agents suggests impaired autonomic nervous system (ANS) function. It is well recognized that an impairment of the parasympathetic fibers from S2-4 results in an atonic distal colon and proximal bowel obstruction [1, 3]. Despite this, there is no postulated mechanism to convincingly explain colonic dilation in those patients without obvious involvement of the parasympathetic nerves. An increasing colonic diameter predisposes to a rise in tension on the colonic wall. If left untreated, there is an increasing risk of colonic ischemia and perforation. The risk of perforation becomes significant when colonic diameter exceeds 10–12 cm or when the distension has been present for greater than six days [4]. The duration of dilation is probably more important than the absolute diameter of the colon [5, 6].

The diagnosis of ACPO should be suspected in at risk patients with abdominal distension or pain and a physical examination that reveals a distended and

tympanic abdomen. The diagnosis of ACPO can formally be established with abdominal imaging.

Although abdominal radiographs are frequently a first line investigation and demonstrate dilated colon, often from cecum to the splenic flexure and sometimes to the rectum, the radiographic findings are not specific. As such, abdominal computed tomography (CT) is the imaging modality of choice as it facilitates differentiating ACPO from a mechanical obstruction.

The aim of management is to decompress the colon and consequently minimize the risk of colonic ischemia, perforation and mortality [1].

The initial management in patients without evidence of perforation and colonic distension less than 12 cm is conservative. This may involve a trial of bowel rest, nasogastric tube decompression, and rectal tube placement. All patients should also have any underlying correctable causes addressed such as electrolyte imbalances, treatment of underlying infection and discontinuation of opioid analgesia. Blood transfusion can be helpful in improving the condition as it helps to correct the underlying electrolyte imbalance identified as an underlying cause for Ogilvie syndrome.

Successful resolution is achieved in 83–96% of patients within 2–6 days of initiating therapy [1]. Due to the potential risk of perforation, patients ACPO should be actively observed with serial physical examinations, and laboratory investigations including full blood count and electrolytes [6]. In addition, it has been advocated to evaluate colonic diameter using abdominal radiographs every 12–24 hours [6]. Typically conservative therapy should be employed for 24–48 hours unless the patient demonstrates clinical deterioration or increasing cecal distension beyond 12 cm [7].

In patients who have failed 24–48 hours of conservative management, pharmacological therapy should be considered. Pharmacologic therapy is directed towards counteracting the sympathetic-parasympathetic imbalance associated with ACPO. The pharmacological therapy with the best evidence base is neostigmine. Neostigmine is a reversible anticholinesterase inhibitor that increases synaptic levels of acetylcholine. As such neostigmine can work to enhance the transmission of action potentials in muscles and thus enable muscle fibers to function more effectively [7].

A number of prospective studies support the efficacy of neostigmine in treating ACPO [8]. Patients had improvement in symptoms with only occasional mild side effects. The reported side effects included sweating and transient bradycardia. Although recurrences were rare, they were reported in up to a third of patients. Although pro-kinetics have been employed to treat ACPO, there is no convincing scientific evidence to underpin this practice. However, cases utilizing erythromycin, metoclopramide, and cisapride have been reported [5, 8]. If patients do not respond to neostigmine or indeed have contraindications to it, colonoscopic decompression can be performed. This

is an effective procedure which has been demonstrated to decrease cecal diameter in 73–100% of cases [9]. Despite this recurrence rates of between 0–65% have been reported [9–11]. In groups of patients with a reported recurrence, repeat decompression was achieved in 56–87% but with higher rates of subsequent cecal distension [1, 9]. If patients do not respond to other pharmacological therapy or colonic decompression, a limited laparotomy and cecostomy can be performed. However, the major advantage of endoscopic decompression is that mortality rates are reported as between 1–5% compared with 12–20% for cecostomy [10].

CONCLUSION

In conclusion, clinicians should be aware that acute colonic pseudo-obstruction (ACPO) can complicate cesarean sections. Mechanical obstruction should be excluded by radiological imaging including X-ray and computed tomography scan. A prompt management plan should be in place and we suggest an algorithm to manage such cases. After excluding mechanical causes, ACPO should be thought and can be managed initially conservatively which is successful in the majority of cases. However, surgical management can be indicated in resistant cases.

Author Contributions

W. Carlino – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

H. Hanna – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

O. Eskandar – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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