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Case Report

Ogilvie's syndrome following cesarean delivery: a case report

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ABSTRACT

Ogilvie's syndrome (OS) or acute pseudo-obstruction of the large bowel, is a rare condition and the true incidence is unknown. We present a case of acute colonic pseudo-obstruction (OS) post cesarean section in a 35-year-old patient with fetal distress, following cesarean delivery at term under general anesthesia. On the second postoperative day, she complained of abdominal distension, pain, nausea, vomiting, bloating and no passage of stool. As the patient's condition did not improve, she continued to have persistent abdominal distention. A plain abdominal film was taken and abdominal ultrasound was done, which showed massive gaseous distention of the bowels without fluid level. At laparotomy, a huge distended gut, pussy flakes on intestine, and massive dilatation of the whole colon were found. Postoperatively, the patient was managed with fluids, antibiotics, nutritional support, etc., along with the standard guidelines for management of peritonitis. The patient recovered and was discharged after 1 day of intensive care unit management to the ward. The need for awareness about the syndrome and early diagnosis is emphasized.

Keywords: OS, Cesarean section, Abdominal distention, Diagnosis

INTRODUCTION

Ogilvie's syndrome (OS) is a rare surgical condition that is characterized by acute obstruction and massive dilatation of the colon without any known mechanical causes.[1] Abdominal pain, nausea, vomiting and abdominal distension are the clinical features. Investigations include plain frontal supine radiograph of the abdomen that shows a distended colon without air fluid levels.[2] It is usually associated with surgery, infection, electrolyte disturbances, connective tissue and cardiac diseases, and medications-corticosteroids, syntocinon, opioids, etc.[3] The pathophysiology of OS is still not very clearly understood. However, as initially reported by Ogilvie in 1948, an imbalance between the sympathetic and parasympathetic innervation of the colon is responsible for erratic peristaltic activity resulting in progressive colonic dilatation.[1,4]

Its prevalence is estimated to be 0.4%. OS occurs in critically ill or postoperative patients; and in obstetrics, is mostly associated with the postoperative cesarean section patient. It typically presents 2–12 days postoperatively.[1] The true incidence of OS is difficult to know because it is often missed clinically until there is significant abdominal distension, and many subclinical cases probably go unrecognized and resolve spontaneously. If left unrecognized, Ogilvie's syndrome can cause serious complications like bowel ischemia and perforation.[4] Which can carry a mortality rate as high as 45%.[1] Initially

it is treated by nasogastric and colonoscopic decompression and, occasionally, intravenous neostigmine. Surgery should be considered if conservative management fails and/or signs of severe meningeal irritation occur.[2]

We present a case of OS in a parturient with fetal distress, following cesarean delivery at term under general anesthesia. This study aims to describe the diagnosis and management of this uncommon condition in a low-income public healthcare setup in a developing country. Additionally, with this study, we hope to bring further attention towards this rare and rarely recognized disorder, in order to help clinicians and researchers in better understanding, detecting and managing it.

CASE REPORT

A 35-year-old pregnant woman gravida 10, para 9+0 came to the emergency department of our hospital and had a history of trial of labour from traditional midwife for 12 hours. She underwent emergency lower cesarean section with spinal anesthesia and bilateral tubal ligation at 39 weeks of gestation because her cardiotocography showed decelerations. The operation was uneventful, and a female infant weighing 2.4 kg was delivered in good condition. Postoperatively, initially, the patient was stable and asymptomatic, with blood pressure 110/70 mmHg; pulse rate 80 bpm; and SpO_2 98% on room air and respiratory rate 18/min. Her abdomen was soft, bowel sounds were present, uterus was contracted, and urine output was good. On the second postoperative day, she complained of abdominal distension, pain, nausea, vomiting, bloating and no passage of stool. Her abdomen was tender and grossly distended; but bowel sounds were audible, although sluggish. Her temperature was normal and laboratory results were unremarkable, apart from low potassium (3.1 mmol/l). Conservative treatment with intravenous fluids and nasogastric tube was recommended. Rectal tube and Redivac drain were passed. A plain abdominal film was taken and abdominal ultrasound was done. The findings were described as massive gaseous distention of the bowels without fluid level (Figure 1). At first, the diagnosis of paralytic ileus was made by the surgeons and conservative treatment with intravenous fluids and potassium replacement was advised. But the patient's condition did not improve; she continued to have persistent abdominal distention. The surgeons decided to perform a laparotomy; which revealed a huge distended gut, pussy flakes on intestine, and massive dilatation of the ascending, transverse and descending colon as shown in the Figure 2. Postoperatively, the patient was brought back to the intensive care unit (ICU). She was managed with fluids, antibiotics, nutritional support, etc., along with the standard guidelines for management of peritonitis. The patient recovered and she was discharged after 1 day of ICU management to the ward. Hospital discharge was done 12 days after the cesarean section with instructions for follow-up.

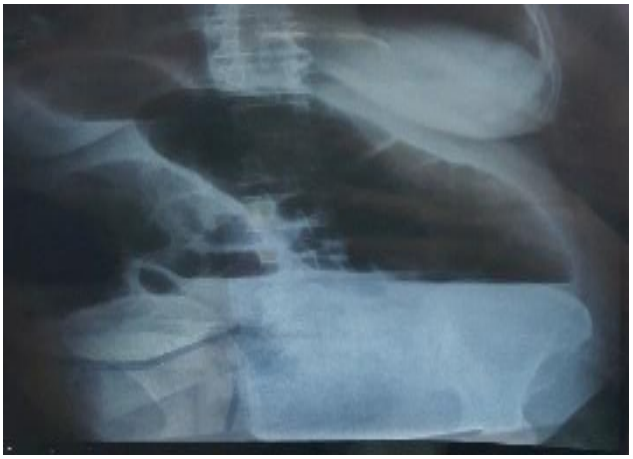

Figure 1: X-ray abdomen of colonic dilatation.

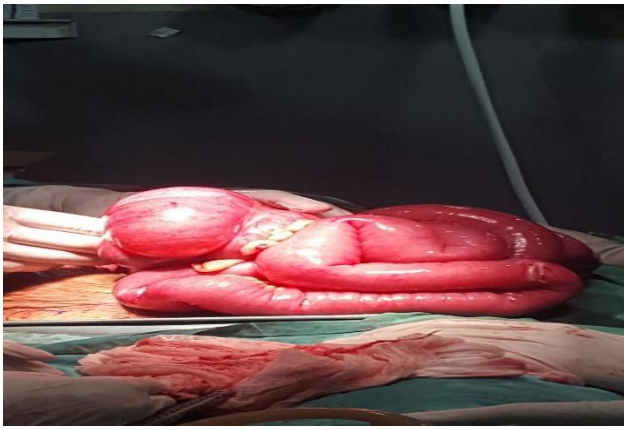

Figure 2: Massive colonic dilatation at laparotomy.

DISCUSSION

OS is the uncommon condition of acute colonic pseudo-obstruction, which was first described in 1948 by Sir William Heneage Ogilvie. However, its exact pathophysiology remains unknown. It has been suggested that it may be caused by dampened parasympathetic innervation of the colon, leading to atony of the distal colon, resulting in progressive dilatation of the proximal colon.[5] In women, the surgical procedure most commonly associated with OS appears to be the cesarean section.[6] According to various publications, the origin of this syndrome seems to be multifactorial and occurs in contexts other than the postoperative period.[7]

There are cases reported after vaginal delivery, forceps delivery, cesarean hysterectomy, and during pregnancy with preterm labor, pre-eclampsia and multiple pregnancies.[8-11] However, there are no data on predisposing factors or any association with respect to ethnic group, parity and indication for cesarean section. The suggested pathophysiology is imbalance in the autonomic nerve supply to the colon.[12] The parasympathetic nervous system promotes gut motility through the vagus and sacral parasympathetic nerves

(S2-S5), while sympathetic stimuli inhibit bowel peristalsis. An imbalance in the sympathetic and parasympathetic 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.

In our patient, the etiology appears to be multifactorial. The cesarean section, corticosteroids, opioids, and oxytocin could have contributed to the development of OS. The effect of prostaglandin F2 on the smooth muscles and the vasoconstrictor effect of Methergine need further consideration. The presenting symptoms in our case-nausea and vomiting, abdominal pain and distention, hypoactive bowel sounds-should have alerted the team about the possibility of OS. The plain X-ray abdominal film taken in our patient, confirms the diagnosis; showing colon dilatation, without air-fluid levels and an absent cause of mechanical obstruction. The suddenly arisen abdominal distention with its progressive course in this patient could have led the clinicians towards including OS in the differential diagnosis, as it is considered to be the most relevant clinical finding.[13]

The medical treatment combines fasting, nasogastric tube placement, re-equilibration of electrolyte disorders, suppression of promoting factors and, possibly, distal enemas using a rectal probe. Parasympathomimetic treatments such as prostigmine may be used intravenously, followed by intravenous neostigmine; it has proven effective even if there is a risk of recurrence of symptoms. The colonoscopy, exsufflation can be considered the first "invasive" gesture to be realized. The rate of failure or recurrence of symptoms is more than 30%.[7] The evolution may be towards a stabilization or a decrease of the gaseous distension spontaneously or after treatment, but there is a risk of recurrence in spite of several days of favorable evolution.[14]

While the case presented in this study is interesting and rarely seen clinically, there are certain limitations which should be acknowledged. Guidelines for diagnosing OS indicate that an X-ray is required for initial imaging, followed by contrast enhanced computed tomography (CECT) which is the gold standard of diagnosis.[15] If CECT is not available, a contrast enema study can be done instead.[15] However, this patient presented at a public hospital in Karachi, Pakistan where the facilities of CECT or a contrast enema were not available; hence diagnosis was made based on X-ray and clinical findings alone. Nevertheless, we believe this study will help clinicians and researchers in better understanding and recognizing this disorder, in order to promote its early detection and management, especially in low-income setups.

CONCLUSION

OS is a rare postoperative complication characterized by acute dilatation of the colon usually involving the caecum and right hemi-colon, in the absence of any mechanical obstruction. It is often easily missed in obstetric patients; therefore, early plain radiographs of the abdomen should be taken in any patient who complains of increased abdominal distension. Early recognition is mandatory to avoid severe and potentially fatal complications like bowel ischemia and perforation. Endoscopic decompression and, when needed, early surgical intervention can reduce the mortality and morbidity associated with the disease.

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