

# Ogilvie's-Syndrome: A Rare but Real Postpartum Nightmare

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## ABSTRACT

Acute Colonic Pseudo-Obstruction (ACPO) is a rare however fatal postpartum emergency. This mini-review article will highlight some details from both surgical and aesthetic point of view.

**KEYWORDS:** Ogilvie's Syndrome; Postpartum; Cesarean; Colonic obstruction

## INTRODUCTION

Sir William Ogilvie (British surgeon), first described the syndrome of colonic pseudo-obstruction in 1948 in 2 patients with celiac plexus tumors. His theory for the explanation of the syndrome was the sympathetic denervation of the colon [1]. However, Dudley in 1958 recognized the functional obstruction rather than mechanical and named it Acute Colonic Pseudo-Obstruction (ACPO) [2].

## DEFINITION

Acute Colonic Pseudo-Obstruction (ACPO) is a huge dilation of the colon with the absence of mechanical obstruction [3]. The expected mortality ranges from 15% to 40% [4].

## Etiology

The exact etiology is unknown, however there are several theories. The main theory involves autonomic imbalance, probably augmented sympathetic over parasympathetic tone [5]. The increased sympathetic activity, dynamically dilates the proximal colon, whereas the reduced parasympathetic tone collapses the distal colon (functional obstruction) [6]. This theory is supported by the presence of a "cut-off sign" between the area of dilated & collapsed bowel around the splenic flexure resembling the transition zone between the vagal and sacral parasympathetic nerve supply [7].

## Epidemiology

The syndrome has been associated with general disorders; severe trauma, sepsis, electrolyte disturbance, diabetes, Multiple Sclerosis (MS) and severe constipation. Postoperative ACPO was reported following total joint replacement, Coronary Artery Bypass Graft surgeries (CABG) and neurosurgery [7]. Whereas obstetric causes included cesarean (the most common), obstetric hemorrhage, multiple pregnancies, and preterm labor. Some medications are found to cause ACPO as narcotics, tricyclic antidepressant, antiparkinsonian drugs, Syntocinon and Dexmedetomidine [8,9].

## Diagnosis

Examination usually reveals abdominal distention, soft abdomen, right-sided abdominal tenderness, and sluggish bowel sounds. However, some patients might complain of abdominal pain, nausea, and vomiting. Plain abdominal X-ray will show proximal colonic dilatation >9 cm with no free air [10], and Computed Tomography (CT) will reveal the "cut-off" between dilated and collapsed bowel [11]. If not diagnosed, the colon may perforate leading to fecal peritonitis thus increasing morbidity and mortality. The condition should be differentiated from paralytic ileus, mesenteric ischemia, cancer colon, and diverticulitis.

### Quick Response Code:



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## TREATMENT

Many conservative approaches were used to manage Ogilvie's syndrome, including treatment of the underlying cause (discontinuation of narcotics, correction of fluids and electrolyte imbalance and antibiotics for suspected bowel ischemia), decompressing the digestive tract by Nasogastric (NG) tube and rectal tube [4].

Pharmacological management by neostigmine was suggested by some studies [12,13] for its benefits as a reversible inhibitor of acetylcholinesterase. It exerts its effect through lifting the parasympathetic flow resulting in resumption of colonic motility. Intravenous neostigmine features a rapid onset of action and short duration (<2hours). Neostigmine is given by the intravenous injection of 2-2.5 mg over 2-5 minutes or 0.04-mg/kg or infusion of 0.025-0.1 mg/kg with atropine. Subcutaneous neostigmine seems to be safe for the treatment of ACPO, with no serious adverse events [14]. Decompressive colonoscopy is usually used once the cecal dilatation exceeds 9 cm as it offers immediate colonic decompression, reducing the incidence of ischemia and perforation. However, colonoscopy is clinically difficult in ACPO than in the general population and may result in colonic perforation in 0-5% of cases. Other treatment modalities were recommended for the management of ACPO; Cystografine® enema, Polyethylene Glycol (PEG), erythromycin, the sympathetic adrenergic blocker guanethidine, Methylnaltrexone (opioid antagonist) and epidural anesthesia [8].

## Surgical Management

Surgery is indicated in patients showing signs of perforation or ischemia or failed conservative management. Data from a systematic review published in 2017 and included 125 postpartum patients with ACPO, suggested that all patients with a cecal diameter of over 12 cm perforated, though the perforation might occur at a diameter of less than 9 cm. Cecostomy could be less risky than conventional colostomy or subtotal colectomy [15-18].

## Prognosis

Ross et al. [19] have published the largest study to date on ACPO, reviewing the data of 106,784 cases from 1998 to 2011. Ninety % of patients were managed by medical management alone, 2.7% by endoscopy, 4% by surgery & 0.5% needed both surgery and colonoscopy. The study has detected raised morbidity and mortality in those who fail medical management and need further procedures.

Ogilvie's syndrome following Caesarean: in the study of Ross et al. [19], 10% of all cases are associated with obstetric procedures with the cesarean delivery being the foremost common associated factor. ACPO was diagnosed within the 3rd to 5th-day post-cesarean section. Literature suggested that postpartum patients with abdominal distension & pain should have imaging to identify colonic perforation. The postpartum mortality appears to be low compared to other patients with ACPO [5,16].

The Maternity and New-born Clinical Network 2019 has revealed the following recommendations for clinicians [20]:

- Consider Ogilvie's syndrome for any lady who presents with progressive abdominal distension 2 to 12 days after cesarean.
- Order appropriate imaging to rule out colonic dilatation and perforation.

- If Ogilvie's syndrome is suspected: check with a senior obstetrician & surgeon.
- Ogilvie's syndrome is usually associated with abdominal pain, nausea & vomiting, mimicking paralytic ileus.
- Often associated with significant narcotic use.
- Treatment: colonic decompression, neostigmine & reducing opioids.

## Anaesthetic Implications

Role of neuraxial blocks: There are conflicting results relating to epidural in the studies, as it is concerned as a cause and treatment for ACPO [7,21,22]. Lee had adopted the theory of autonomic imbalance as a reason for ACPO, possibly with excess sympathetic tone inhibiting colonic motility. Consequently, epidural blocked the sympathetic tone & treated patients after failing conservative treatment. This theory was supported by other authors who used spinal anesthesia [22].

## Opioids

Opioids have a well-recognized association with ACPO [4]. Most guidelines recommend discontinuation of opioids whenever possible, as opioid use was associated with constipation in half of the opioid-treated patients [23]. No difference in Opioid-Induced Constipation (OIC) was seen with morphine, hydrocodone, & hydromorphone. Higher doses of opioids are associated with greater rates of OIC, although the evidence was limited [24]. Opioid rotation to fentanyl is beneficial in patients with pain, when the abrupt stop of analgesics is challenging, as fentanyl has the advantage of being less constipating than morphine.

## Dexmedetomidine-induced ACPO

The alpha-2 agonists, dexmedetomidine is commonly utilized in the Intensive Care Unit (ICU) to sedate critically ill patients on a ventilator. Therefore, symptoms of ACPO are usually missed resulting in late diagnosis with increased morbidity and mortality. There are few reports of a potential association with ACPO [9,25].

## CONCLUSION

Although a rare condition, Ogilvie's syndrome should not be forgotten in postpartum patients. If suspected, appropriate imaging should be ordered to rule out colonic dilatation and perforation. Conservative management is effective in most of the early diagnosed cases. Spinal or epidural worth a trial in postoperative cases, for their beneficial results in blocking the sympathetic flow and restoring normal motility.

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