

# Ogilvie's Syndrome

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## ABSTRACT

Ogilvie's syndrome, also known as 'paralytic ileus of the colon', is characterised by pseudo-obstruction of the large intestine in the absence of any mechanical obstructing component; and presents as a massively distended abdomen. If left untreated, it may lead to bowel perforation or ischemia. Ogilvie's syndrome usually presents as a postsurgical complication, mainly due to the lack and/or restriction of movement coupled with a possible electrolyte imbalance. Here, we present a case of a pre-surgical 63-year lady, having a right hip fracture, who came with complaints of severe abdominal pain and distension for 4 days. Abdominal X-rays showed massively dilated bowel loops. Patient was successfully managed with neostigmine administration and was discharged home.

**Key Words:** *Ogilvie syndrome. Acute intestinal pseudo-obstruction. Mega colon.*

## INTRODUCTION

Acute colonic pseudo-obstruction (ACPO), also known as Ogilvie's syndrome (OS), is a condition named after a British surgeon, Sir William Heneage Ogilvie, who presented the first case in 1948.<sup>1,2</sup> It is characterized by massive colonic dilation in the absence of any mechanical obstruction.<sup>3</sup> It usually presents as a post-surgical complication, especially following coronary artery bypass surgery, pregnancy via caesarean section, and total joint replacement.<sup>4-6</sup> Drugs that disturb colonic motility also contribute to the development of this condition.

Here, we present a case of an elderly lady who developed OS before her scheduled surgery, after suffering a fractured hip secondary to fall.

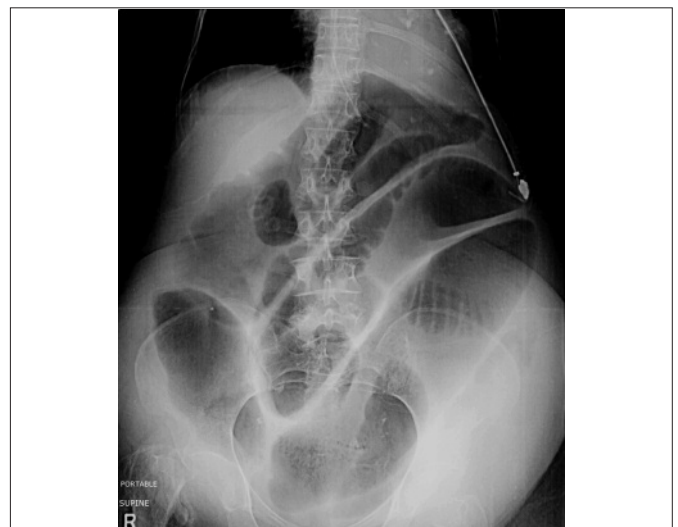
## CASE REPORT

A 63-year female known case of hypertension, diabetes and chronic atrial fibrillation, presented to emergency department with the complaints of abdominal pain and distension for 4 days. Pain was generalised, dull and continuous, associated with progressive distension and absolute constipation. Two weeks ago, she had a history of ground level fall and X-ray pelvis showed fracture of the neck of femur on right side. On examination, the lady was debilitated, frail looking with an externally rotated right leg. Her vitals were normal except for tachycardia. Abdominal examination showed significantly distended abdomen, tense with generalised tenderness, tympanitic note on percussion with absent gut sounds. There was

no evidence of any rigidity or rebound tenderness. Digital rectal examination revealed ballooning of the rectum with liquid stools. Laboratory workup revealed no significant abnormality with the electrolytes being in normal range except for a raised creatinine of 2.7 mg/dL (reference range, 0.4 - 1.0 mg/dL) indicating acute kidney injury. Hence, X-ray abdomen was performed.

Abdominal X-ray revealed massive entire large bowel dilatation with caecal diameter of 8.5 cm and faecal loading as shown in Figure 1. Prior to attending our medical services, the patient had undergone a computed tomography (CT) scan abdomen from an outside facility. Though the family did not have any image (scans), they did bring a report that stated dilation of the intestinal loops without any anatomical or mechanical obstruction.

On the basis of clinical signs, symptoms and the classical abdominal X-ray findings, patient was diagnosed to have OS. Conservative treatment included nasogastric tube kept on low volume suction, intravenous fluids and rectal



**Figure 1:** Massive caecal dilatation (a hallmark of the Ogilvie syndrome) with dilatation of other parts of the colon.

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**Table I:** Differences between pseudo-obstruction, paralytic ileus, and simple mechanical obstruction.

	Pseudo-obstruction	Paralytic ileus	Simple mechanical obstruction
Symptoms	Nausea, vomiting, obstipation, abdominal pain, constipation	Nausea, vomiting, obstipation, mild abdominal pain, constipation, bloating	Nausea, vomiting, obstipation, abdominal pain, constipation
Physical examination	Distension, localized tenderness, tympanic, peristaltic waves, hypoactive/hyper-active bowel sounds, borborygmi	A silent, distended, and tympanic abdomen	Distension, localised tenderness, rushes, high pitched bowel sounds, borborygmi, peristaltic waves
Plain abdominal X-ray	Isolated large bowel dilatation with elevated diaphragm	Small and large bowel dilatation with an elevated diaphragm	Air-fluid levels, bow-shaped loops, absence of colonic gas distal to lesion, mildly elevated diaphragm



**Figure 2:** After neostigmine administration.

tube insertion; but condition did not improve. Patient was then started on neostigmine initially at a dose of 0.5 mg every 6 hours, which was later increased to 1 mg. Following 24 hours, patients had passed a significant volume of stool and repeat X-rays showed significant improvement and a decrease in the dilation of intestinal loops as seen in Figure 2. Patient was discharged home and scheduled for hip surgery at a later date.

### DISCUSSION

OS is an unusual condition characterised by acute and massive dilation of the cecum without an identifiable mechanical obstructive cause. It has most commonly been reported after pregnancy or caesarean section in young females, as a postsurgical complication (unlike our pre-surgical case), severe burns and electrolyte imbalances.<sup>4-6</sup> One of the postulated theories regarding its pathophysiology is the imbalance between the sympathetic and parasympathetic innervation to the colon, which results in an overall excess in sympathetic activity, though its exact mechanism is still unknown.<sup>7</sup>

The pseudo-obstruction is characterised by an acute and considerable distention of the large intestine. Similar to paralytic ileus, it tends to occur in the absence of any mechanical obstruction or pathology. However, pseudo-obstruction is limited solely to the colon, while on the other hand, paralytic ileus involves both the colon and the small bowel. Classic pseudo-obstruction typically involves the right colon and usually appears in trauma

patients, or elderly bedridden patients with severe extra-intestinal illness. Chronic intestinal pseudo-obstruction involves dysmotility of the small and large intestines, usually seen in patients with neuropathy, visceral myopathy, or collagen-vascular diseases.

On physical examination, it usually appears as marked abdominal distention without pain or tenderness. Patients may, however, display symptoms mimicking mechanical obstruction. Plain abdominal X-ray will show isolated proximal large intestinal dilatation. Table I lists the general differences between and characteristics of pseudo-obstruction, paralytic ileus, and simple mechanical obstruction.

One of the most devastating complication of OS is ceecal perforation, occurring in only 1 - 3% of patients.<sup>3</sup> There is a 50 - 71% mortality risk in perforated cases, compared with 8% in non-perforated cases.<sup>3</sup> Timely recognition is of crucial importance in the initial assessment and management.

OS management may be classified into non-surgical and surgical groups. A majority of cases tend to settle with an endoscopic or pharmacological therapeutic approach. Colonoscopic decompression is a widely used method.<sup>3</sup> Though successful, it also tends to have a high recurrence rate. Pharmacological treatment includes naloxone, cholinergic stimulation with neostigmine or erythromycin and cisapride. Surgical treatment is usually indicated in ceecal distention of a diameter greater than 9 cm or the presence of perforation or ischaemia of the bowel.

The best evidence for medical treatment currently available is neostigmine, an anticholinesterase inhibitor.<sup>5,6,8</sup> Clinical improvement after neostigmine administration supports the theory that pseudo-obstruction is caused by parasympathetic suppression as opposed to sympathetic overactivity.<sup>9</sup> A study by Ponc *et al.* demonstrated the efficacy of using neostigmine, with 10 out of 11 patients showing significant clinical improvement in a median time of 4 minutes in comparison to the control group who received placebos.<sup>10</sup> Neostigmine is not without its side effects. Patients may experience transient decrease in heart rate and sweating.

### CONCLUSION

OS is an important post-surgical complication. Although unusual, it may occur in pre-surgical setting as well,

prompting physicians to include OS in the list of differentials. Conservative treatment tends to prove efficacious in most cases.

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