

## Ogilvie's Syndrome treatment

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**Abstract.** *Introduction:* Ogilvie's Syndrome (OS) is a rare condition caused by parasympathetic dysfunction of large bowel characterized by acute and massive colon distension without mechanical obstruction. Rarely this disease has to be treated by the surgeon but operations may be indicated in case of medical treatment failure. *Methods:* A retrospective analysis was carried out at the Emergency Surgery DPT of St Orsola-Malpighi University Hospital Bologna Italy. From 1995 to 2002 11 patients were treated for severe OS: they were 8 males and 3 females and the mean age was 68 yrs. All these subjects had large bowel distension with caecum diameter more than 8 cm without any evidence of mechanical obstruction. *Results:* In 4 patients (36%) OS was caused by trauma or surgical procedures whereas in 7 cases (64%) was produced by other conditions. Only in 3 cases (27%) conservative treatment was successful; the remaining 8 patients were submitted to surgical therapy. 6 patients were submitted to decompressive caecostomy and in 2 cases a subtotal colectomy was done. Mortality was 36%. *Discussion and Conclusions:* Surgical treatment of OS is indicated when there is a conservative treatment failure. The high mortality is related to diagnostic and therapeutic delays, advanced age and comorbidities.

**Key words:** Ogilvie's Syndrome, bowel obstruction, treatment

### Introduction

Acute colonic pseudo-obstruction (Ogilvie's syndrome) (OS) can be defined as a clinical condition with symptoms, signs and radiological appearance of acute large bowel obstruction unrelated to any mechanical cause

This disease is usually referred to as OS because of the original report by Sir William H. Ogilvie of two cases with large intestine colic due to invasion and destruction of the coeliac plexus and semilunar ganglion associated with retroperitoneal malignancy (1).

It is a rare condition caused by parasympathetic dysfunction of large bowel characterized by acute and massive colon distension

OS may occur in patients with peritonitis and se-

vere infections (especially those induced by Gram-negative bacteria), hypokalaemia (and in general with severe electrolyte imbalance), retroperitoneal haemorrhage, spinal or pelvic surgery or trauma and myocardial infarction. Other clinical conditions associated with OS are neurological disorders (i.e. Parkinson's disease, Alzheimer's disease, elderly dementia, etc.), the use of certain drugs (i.e. antidepressants, phenothiazines, antiparkinsonian compounds, opiates, etc.), alcohol abuse and, frequently, simply advanced age.

Over the years, OS has been extensively documented in the literature (2).

Despite the accurate description of this condition, its diagnosis remains difficult, and is sometimes delayed, so that many patients are still not properly treated, with significant morbidity and mortality (3).

Rarely this disease has to be treated by the surgeon but operations may be indicated in case of medical treatment failure.

A major issue that confronts the clinician in the evaluation or management of patients with OS is the risk of perforation, which was recently estimated at 3%. The associated mortality from colonic perforation is significant, ranging from 43% to 50% (4).

Aim of this study was to review our experience on OS with particular regard to its treatment.

## Methods

A retrospective analysis was carried out at the Emergency Surgery DPT of St Orsola-Malpighi University Hospital Bologna, Italy.

From 1995 to 2002 11 patients were treated for OS.

They were 8 males and 3 females and the mean age was 68 yrs ( $\pm 8.4$  yrs).

All these subjects had large bowel distension with caecum diameter more than 8 cm without any evidence of mechanical obstruction.

Mechanical obstruction had been ruled out using a water-soluble contrast enema

All clinical and radiological charts were extensively reviewed.

We considered these data: patient's characteristics, the nature of medical and surgical treatments, morbidity, mortality and long-term follow-up.

Medical treatment was based on nasogastric decompression, correction of fluid and electrolyte imbalance, treatment of any underlying concomitant illness, endorectal flatus tubes, concomitant medication (that might affect intestinal transit) withdrawal, cholinergic agonists, erythromycin, metoclopramide, cisapride.

An endoscopic therapy was performed in all suitable cases.

Surgical intervention, and the placement of a tube cecostomy in particular, was carried out in the patient with megacolon who appears at high risk of perforation and has failed pharmacological and colonoscopic attempts at decompression.

Subtotal colectomy was also performed in selec-

ted cases. The choice of the procedure was related to patient general conditions or intraoperative finding of caecal ischemia.

## Results

In 4 patients (36%) OS was caused by trauma or surgical procedures whereas in 7 cases (64%) was produced by other conditions such as neurological causes, drugs and infective causes.

In all patients mechanical obstruction had been ruled out using a water-soluble contrast enema.

In all subjects a first approach with conservative treatment was carried out with nasogastric decompression, correction of fluid and electrolyte imbalance, treatment of any underlying concomitant illness, endorectal flatus tubes and concomitant medication (that might affect intestinal transit) withdrawal.

In the totality of patients medical treatment was based also on administration of cholinergic agonists, erythromycin, metoclopramide and cisapride.

Only in 2 cases (18.1%) medical treatment was successful.

Endoscopic treatment was attempted in 3 of the remaining 9 patients but in only 1 case it was successful (in 2 cases there was a technical failure).

The remaining 8 patients were submitted to surgical therapy: in 2 cases there was an high risk of perforation (cecal diameter more than 12 cm) whereas in the other 6 patients conservative treatment failed.

6 subjects were submitted to decompressive caecostomy.

In 2 cases a subtotal colectomy was done: one patient had a caecal necrosis whereas the other patient was a 62 y.o. man in good general conditions.

Mortality was 36%. 3 patients died after decompressive caecostomy for cardiac insufficiency while the other subject was submitted to conservative treatment and died after 2 months for unrelated comorbidities.

There were not surgical complications.

All operated patients had satisfactory results after a mean follow-up of 32.1 months.

The medically treated subjects had other 2 episodes of bowel obstruction successfully treated with the same treatment.

## Discussion

Acute colonic pseudo-obstruction, or OS, is defined as an acute dilatation of the colon without evidence of mechanical obstruction distal to the dilated segment (5).

OS is associated with an underlying medical condition, or the postoperative state, in over 90% of cases (6-10).

In one extensive review, over 50% of all instances occurred in relation to surgery, and 45% were associated with a significant acute or chronic medical disorder (5). Advanced age, obesity, immobility, and the use of patient-controlled analgesia (PCA) have been identified as risk factors for OS in individual patients (9, 10).

In our series in only 36% of patients OS occurred in relation to surgery but in all remaining cases an underlying medical condition was identified.

The classical radiological findings feature dilatation of the cecum, ascending and transverse colon combined with the paucity of gas in the left colon.

Mechanical obstruction has to be ruled out using a water-soluble contrast enema (11).

Therapy is based, primarily, on the traditional concept of bowel rest. This approach includes nasogastric suction, nothing by mouth, and the parenteral administration of fluid, electrolytes, and nutrition, as required. Whether this approach has any influence on the natural history of these disorders is unknown (12), but upper gastrointestinal decompression will certainly provide symptomatic relief, and the administration of intravenous fluids will avoid fluid depletion, electrolyte imbalance, and malnutrition.

Pharmacologic, endoscopic, and surgical approaches have been variably attempted to relieve OS.

Pharmacologic treatment is based on cholinergic agonists, erythromycin, metoclopramide and cisapride.

The best documented pharmacological treatment of OS is intravenous neostigmine (2-2.5 mg), which leads to quick decompression in a significant proportion of patients after a single infusion (13).

However, the search for new colokinetic agents for the treatment of lower gut motor disorders has made available a number of drugs that may also be therapeutic options for OS such as erythromycin, metoclopramide and cisapride (14).

All these drugs were used for the medical treatment of our patients but in only 20% of cases this treatment was successful.

Colonoscopy plays an important role in the management of patients with megacolon and significant cecal distension. By definition, the colon will not be prepared in these patients and the procedure may, therefore, be technically difficult. An overall success rate of approximately 70% has been reported in achieving a reduction in cecal diameter, but the recurrence rate has been as high as 40% (4). In our series in was performed in only 3 subjects with a success rate of 33%: in the other 2 cases the examination failed for technical problems. Probably colonoscopy should be used in the majority of patients with a medical treatment failure.

Surgical intervention may become necessary in the patient with megacolon who appears at high risk of perforation and has failed pharmacological and colonoscopic attempts at decompression. The majority of patients of our series (72%) were submitted to surgery and this result can be explained by the fact that in our DPT only severe OS are admitted.

In 2 cases there was a perforation risk whereas in the remaining patients there was long lasting medical treatment failure. We carried out 6 decompressive caecostomy and 2 subtotal colectomies: these last operations have to be reserved to selected cases.

As a matter of fact surgical procedures for OS have high morbidity and mortality (in our series 37%): these patients have poor general conditions and surgical trauma must be minimized (15).

However medical treatment has recurrences while surgery is a problem solving therapy.

In conclusion surgery has to be considered a good option for severe OS with failure of medical and endoscopic treatment.

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