A new approach to the cure of the Ogilvie's syndrome

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Introduction

A wide variety of medical and surgical conditions are associated with the development of an acute colonic pseudo-obstruction (12, 13, 14, 15, 16, 17). There is also a rare condition described by Ogilvie which is characterized by many features of an acute large-bowel obstruction, without evidence of a mechanical cause (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11).

The etiology of this condition remains obscure. Several studies suggest that the syndrome might be a consequence of an imbalance of sympathetic and parasympathetic supply of the colon (18, 19, 20, 21, 22, 23). If the acute colonic pseudo-obstruction is recognized in an early stage, operative intervention can be eliminated in most of the cases. In fact, the first line of the management has shifted to the colonoscopic decompression since its introduction by Kukora (24).

We have analyzed 25 cases of Ogilvie's syndrome with the aim to value the most common predisposing conditions, because early recognition and prompt appropriate therapy, may reduce significantly morbidity and mortality of the syndrome.

Materials and methods

From January 1991 to January 2000, 25 consecutive patients, were admitted to the General Surgery Department of the University of Ferrara, and diagnosed with Ogilvie's syndrome.

The average patient's age was 73.86 (range 36-96); males predominating by a 3:1 ratio (19 males and 6 females). In all cases the diagnosis of Ogilvie's syndrome was established by the observation of the clinical details. Moreover it was confirmed by x-ray of the abdomen and by contrast enema or colonoscopy.

Abstract

The Authors describe their own observation of 25 cases of acute colonic pseudo-obstruction, better known as "Ogilvie's Syndrome" with the objective to demonstrate that an early recognition and prompt appropriate therapy, better if conservative, can reduce the morbidity and the mortality of the Syndrome. The surgical therapy is reserved only to those cases in which the risk of perforation of the cecum represents an absolute indication to intervention.

Key words: Ogilvie's Syndrome, cecal perforation.
– the presence of massive abdominal distension, in the absence of mechanical obstruction proven by colonoscopy or contrast enema;
– the acute onset of the colonic pseudo-obstruction.

Results

We have analyzed 25 patients with Ogilvie’s syndrome. The diagnosis in 7 patients (28%) was confirmed in the Emergency Department.
In 6 patients (24%) were sent to the Department of Internal Medicine where it was recognized after surgical consultation. In 3 patients (12%) that were hospitalized in the Neurologic Department. In 5 patients (20%) that were hospitalized in other Surgical Departments and in 4 (16%) patients in our department who developed the syndrome postoperatively.
The Ogilvie’s syndrome was associated in 7 patients (28%) with acute cerebro-vascular accident, in 4 patients (16%) with chronic obstructive pulmonary disease, in 3 patients (12%) with mental retardation, in 3 patients (12%) with trauma and in 8 patients (32%) with surgery procedures, orthopedic, gynecologic and colonic surgery (Table I).

The average days of hospitalization prior to referral of the surgical service was 11.1 days (range 6-20); far the patients who developed the syndrome postoperatively and the average days before the diagnoses was 12.8 days (range 6-23).
At the time of the diagnoses we observed marked abdominal distension in all the patients, vomiting in 9 (36%), diarrhea in 3 (12%), constipation in 5 (20%) and abdominal pain in 7 (28%). On physical examination none had evidence of peritonism (Table II).

We have recorded some imbalance in basic serum electrolytes: the most frequent was hypokalemia in 18 patients (72%), then hypocalemia in 15 patients (60%) and hyponatremia in 9 patients (36%) (Table III).
In all the patients we have performed an abdominal x-ray film which disclosed distended small bowel and proximal colon.
Transverse cecal diameter was measured from radiography when the syndrome was suspected: the average transverse cecal diameter was 11.3 cm (range 9.7-15.1) (Fig. 1). A contrast enema was performed to exclude an organic colonic obstruction in patients who had prior undergone colon surgery.
The diagnose was confirmed in all patients by a colon-

| Table I | CLINICAL CONDITIONS ASSOCIATED WITH OLGIVIE’S SYNDROME |
|-----------------------------------------------|
| - Acute c-v Accident |
| - C O P D |
| - Mental Retardation |
| - Trauma |
| - Surgery |

| Tab. II | MAJOR SYMPTOMS OGILVIE’S SYNDROME |
|-----------------------------------|
| Abdominal pain | Diarrhea | Abdominal pain | Vomiting | Constipation |

| Tab. III | ELECTROLYTE ABNORMALITIES IN OLGIVIE’S SYNDROME |
|-----------------------------------------------|
| Hypocalcemia | Hypokalemia | Hyponatremia |

| Tab. IV | DIFFERENT TREATMENTS FOR OLGIVE’S SYNDROME |
|-------------------------------------------|
| Conservative management |
| Neostigmine |
| Colonsopic decompression |
| Surgery |
scopy, performed only in 4 patients before the contrast enema.

To obtain the complete clinical results of the abdominal distension we used nasogastric suction, rectal tube and restriction of oral intake.

This was a useful measure in 3 patients (12%).

A x-ray film confirmed the success of the conservative management.

A rapid and satisfactory clinical and radiologic decompression of the colon was obtained in 1 patient who was given only 2.5 mg of intravenous neostigmine (Prostigmina-Roche) in 100 ml of physiological salt solution for one hour.

Colonscopic decompression was performed when conservative conduct alone was not successful or when followed by drug administration.

17 patients had undergone colonoscopy decompression; 9 patients required it only once and 1 patient had decompression twice to obtain a successful result. In 7 cases the cecal diameter was not lessened, yet abdominal distension and colonic activity returned after decompression, so surgery couldn’t be avoided. These patients in whom colonscopic decompression failed, had undergone, in 4 cases, a right emicolectomy and in 3 cases a V.A. right emicolectomy.

In the last 4 cases abdominal x-ray film showed an incipient of perforation of the cecum which represents an absolute indication for the surgical treatment. These patients required an extended right emicolectomy (16%) (Fig. 2) (Table IV).

The mortality rate was 4.3% and the death wasn’t correlated to colonscopic decompression and yet the death proved to be attributed to colonic disease.

**Discussion**

The typical patient affected by Ogilvie's syndrome suffers massive abdominal distension and has a cecal diameter greater than 9 cm with an absence of organic and mechanical obstruction of the colon. However Ogilvie's syndrome continue to perplex clinics and surgeons: the true incidence of colonic pseudo-obstruction is difficult to estimate (11, 25, 26, 27, 28), because the features of the syndrome may be unrecognized.

Morbidity and mortality secondary to this condition are clearly significant. Although the first patients described by Ogilvie in 1948 had abdominal cancer, it is an uncommon association with Ogilvie's syndrome. Thanks to improved knowledge of the autonomic innervation of the colon, new theories have been advanced. Most of the authors now attribute its cause to an imbalance of the autonomic system. The mechanism proposed is an interruption of pelvic parasympathetic innervation with consequent increase of sympathetic tone to the distal colon (19-29).

Other etiologic theories attribute the syndrome to an air-fluid or “vapour” lock mechanism as a result of fluid collecting in the dependent portion of the bowel. During
any ileus, fluid accumulates in communicating loops of the bowel. In recumbent patients, fluid stores up in the pelvic colon where it acts as an air-fluid lock. This leads to the accumulation of gas and proximal colonic distension (30). Despite the uncertainty of the pathophysiology of Ogilvie’s syndrome, many clinical conditions are associated with its development. The most frequent are: old age, chronic alcoholism, post-partum period, narcotic addition, diabetes mellitus, congestive heart failure, sepsis, trauma, laxative abuse and bad sleeping habits. In our experience we found the Olgivie’s syndrome also in patients with trauma, acute cerebrovascular accident, chronic obstructive lung disease and mental retardation. This was also true of patients who had surgery. Two patients had undergone caesarean birth, two patients hip arthroplasty and four patients who had anterior resection of the rectum (31, 32, 33, 34, 35, 36, 37). The relationship between these events and the syndrome seems to be the traumatic manipulation of the retroperitoneum and the spinal cord (38).

The electrolyte abnormalities may play a determining role. In our experience all patients affected by the Olgivie’s syndrome had hypokalemia and hypocalcemia, suggesting that these are not a result, as some think, but a cause of Ogilvie’s syndrome (39). The correction of electrolyte is determining for the success of the conservative management. We reported two cases of Olgivie’s syndrome in drug abusing patients. The phenothiazine in particular are parasympatholitic agents, and consequently may be responsible of colonic pseudo-obstruction (40, 41, 42, 43).

The diagnosis is established by features of the history, physical signs and gaseous distension of the large bowel, demonstrated on plain x-ray films. Since the radiographic features are difficult to distinguish from other conditions, such as cecal volvulus, we have always performed colonoscopy to resolve the problem. In five cases we combined a contrast enema (44, 45, 46) with the colonoscopy The colonoscopy has the advantages of excluding mechanical factors and also allowing therapeutic decompression of the colon (47).

With the increasing awareness of the syndrome and improved endoscopic techniques, Ogilvie’s syndrome is being successfully treated without surgery in a large percentage of cases (48, 49, 50). Once the diagnosis is confirmed and there are no signs of cecal perforation, management is essentially conservative. It is always continued for almost 48 hours. We administer balanced electrolyte and fluids ensuring adequate oxygenation of the patients.

At the present time, colonoscopic decompression is the main-stay of treatment of colonic pseudo-obstruction. It reduces cecal pressure and wall tension, thus reducing the likelihood of perforation (52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65). The 57% of our patients were effectively treated by colonoscopic decompression and needed no further intervention. There weren’t complication or death related to colonoscopic. This approach is well tolerated by most patients and should decrease the incidence of recurrence.

Operative interventions are indicated for patients in whom colonoscopy decompression has failed. Also if we suspect ischemic bowel or cecal perforation (66).

Operative intervention is absolutely necessary in the presence of pneumoperitoneum or development of cecal tenderness. Surgical options include laparotomy and laparoscopic cecostomy or right hemicolecotomy with ileostomy (67).

In literature several Authors have performed cecostomy as an essential operation in Ogilvie’s syndrome when conservative measures have failed. We disagree with this surgical conduct and we prefer to perform a right emicolectomy with eventual protective ileostomy when we suspect an incipient cecal perforation. The results obtained are encouraging.

Cecostomy is in our opinion an operation that often is unresolvable and causes serious hydroelectrolytic unbalances. Performance of right emicolectomy has been successful in our cases and has been determining in the resolution of the syndrome. The treated patients have had no complications. Not in any cases we made a protective ileostomy also neither in the fear of an incipient cecal perforation.

Right emicolectomy has become a safe operation in Ogilvie’s syndrome. In our cases we performed right emicolectomy also by laparoscopic V.A. technique and had no complications.

The prognosis is excellent if correct diagnoses and appropriate treatment are instituted before cecum perforation, which carries a reported mortality rate of 25-60%. Morbidity and mortality rates for routine non emergent colonoscopic decompression are respectively less than 3% and 1%. These rates increase when the decompression is performed in emergency, due to the fact that the bowel is unprepared and the clinical conditions of the patients are severe. These factors are reported to affect the risk of mortality: patient age, cecal diameter and all delay in decompression.

References


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