Brief Communication

An obstruction not to forget: Pseudo-obstruction (Ogilvie syndrome): Single center experience

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Abstract

Purpose: Colonic pseudo obstruction disease commonly seen in the elderly, immobile patient group can cause serious mortality and morbidity. Our objective in this retrospective study is to share our clinical experience by evaluating patients with Ogilvie syndrome who were followed and treated in our clinic. **Methods:** Eleven cases with the diagnosis of Ogilvie syndrome followed up and treated between September 2010 and April 2013 were evaluated retrospectively. All the patients that had no symptoms of acute abdominal pain were initiated conservative treatment. Colonoscopic decompression was attempted for patients whose clinical pictures were not recovered. Patients underwent operation if they developed peritoneal irritation symptoms during these procedures and of their number of white blood cells seriously increased during the follow-up period. **Results:** A total of 11 patients were treated for Ogilvie syndrome. 6 of the patients underwent surgical treatment, and 5 were treated medically. Mortality developed in two patients. The main cause of mortality was a delay in diagnosis and additional severe underlying diseases. Seven patients were given Neostigmine. Of these, 2 patients required surgery and 3 patients responded to Neostigmine. **Conclusion:** Ogilvie syndrome is a rare cause of ileus of the colon. It is more common particularly in old patients with additional problems. If the disease is suspected and diagnosed early, unnecessary surgical interventions can be prevented with medical treatment choices.

Keywords: Morbidity, mortality, neostigmine, Ogilvie syndrome

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Introduction

Ogilvie syndrome is ileus developing disease without identifying any pathological cause of obstruction.[1] The basis of this pathology is motility disorder of the intestines without any mechanical obstruction.[2]

Two forms of disorder were defined as acute and chronic. In the chronic form, disruption of peristaltic movements of the colon linked to colonic parasympathetic and sympathetic imbalance and later massive dilatation of colon is observed.[3] In the acute form, it is thought to develop secondary to electrolyte disorders in severe metabolic and neurological diseases.[4]

The most important factor in treatment success is the awareness of the clinician and early diagnosis. If the diagnosis of disease is made in the early stages and appropriate treatment is begun, the chance of medically

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treatment success is higher but perforation and ischemia are developed about 40% mortality rate.[5]

We report a case series of Ogilvie syndrome, their clinical characteristics, management, and outcomes.

Materials and Methods

Patients hospitalized and treated in our clinic due to ileus between September 2010 and April 2013 were retrospectively examined. Patients who have "primary discharge diagnosis: Ileus" at the hospital computer recordings were included. Data were obtained from the patients' files, operation reports, and intensive care follow-up charts in the hospital archives.

The inclusion criteria were the patients with primary diagnosis of "ileus" without pathologies that might cause mechanical bowel obstruction such as tumor and bird or incarcerated hernia in the etiology and whose all treatment procedures were carried out in our hospital.

A total of 462 patients who were hospitalized and received medical or surgical treatment due to ileus during the study were retrospectively screened. Among the operated patients with a cause determined to preoperatively or intraoperatively explain ileus and among the patients who were not operated, those have gas-stool output at the follow-up and considered to have any etiologic factor on the tomography were excluded from the study.

We retrospectively reviewed 20 patients who were monitored at our clinic during the study. Of these patients, 4 had incomplete data and 5 transferred to another center were excluded. The study included 11 patients.

Diagnosis of the patients was made after perforation was ruled out, through intravenous and oral contrast-enhanced abdominal tomography and colonoscopic examination. Patients were treated according to the SAGES treatment protocol.[5]

According to this protocol, at the first stage of the treatment, 24-h fluid and electrolyte therapy was administered. At the end of 24 h, the second stage of the treatment, neostigmine 2.5 mg was administered with slow infusion in 3 min. Colonoscopic decompression as the first invasive intervention was applied in the patients who were not benefited from medical treatment. Finally, surgical procedure was applied in the patients who were not benefited from the compression or having acute abdomen.

The patients were assessed in terms of age, sex, accompanying diseases, white cell levels, colon diameter, duration of hospital stay, treatment methods, morbidity, and mortality. The duration of hospital stay was calculated as stay in the general surgery clinic. Results are given as mean ± standard deviation. Statistical analysis was performed using the SPSS-15 (SPSS Inc., Chicago IL) statistical program.

Results

A total of 11 patients were treated for overall survival (OS). Of patients, 7 (63.7%) were female. The mean age of patients was 74.1 ± 20.9 years (22–95). Mean white cell values were 12,054 ± 3831 and mean hospital stay was 10.7 ± 4.6 days [Table 1].

One patient had coronary artery disease and hypothyroidism, four patients had neurological disease, one patient had neurological disease and diabetes mellitus (DM), three patients had recently undergone surgical operations [Table 2].

After first evaluations, two patients with acute abdominal findings were undergone emergency operation. The first of these had undergone a hip prosthesis operation at the orthopedic clinic 8 days before and had no gas-feces discharge for 6 days. Abdominal tomography measured the cecum diameter as 16 cm [Figures 1 and 2]. In surgical exploration, there were necrotic areas in the colon. Total colectomy and end ileostomy were performed. This patient died because of cardiopulmonary failure on the 7th day after surgery. The second patient taken for emergency surgery was first seen in the emergency service. The dementiative patient's history was abdominal pain and no gas-feces discharge for 5 days. Physical examination found acute abdominal findings and the patient underwent emergency laparotomy. Perforation of the cecum was identified. Right hemicolectomy and end ileostomy were performed. The patient died due to heart failure on the 13th postoperative day.

The other nine patients had fluid and electrolyte requirements calculated and medical treatment began. Of the nine patients, two were taken for emergency operation due to development of acute abdominal findings in the early period. These two patients had necrotic areas in the serosa found on exploration of the cecum. Right hemicolectomy and ileotransversotomy were performed. After the surgery without complications, these patients were discharged.

Table 1: The demographic details, clinical characteristics, and treatment outcomes in cases

Age	Gender	Comorbid diseases	White cell count	Diameter of colon (cm)	Treatment methods used	Result	Duration of hospital stay (days)
55	Male	Mild Hyponatremia	22,000/mm^3	13	Conservative surgery	Cure	10
82	Female	Hypothyroidism CAD	12,000/mm^3	13	Conservative surgery	Cure	14
92	Female	Hip prosthesis Alzheimer CHF	18,000/mm^3	16	Surgery	Ex	15
76	Female	DM	13,100/mm^3	11	Conservative Neostigmine Colonoscopy Surgery	Cure	15
71	Male	CHF DM	9700/mm^3	10	Conservative Neostigmine Colonoscopy Surgery	Cure	13
88	Female	Alzheimer	19,800/mm^3	12 perforation	Surgery	Ex	18
82	Female	Parkinson	8800/mm^3	12	Conservative Neostigmine Colonoscopy	Cure	9
66	Male	Pelvic surgery	10,300/mm^3	10	Conservative Neostigmine	Cure	7
87	Male	TUR prostatectomy	11,400/mm^3	8	Conservative Neostigmine	Cure	9
95	Female	Alzheimer	7600/mm^3	9	Conservative Neostigmine Colonoscopy	Cure	4
22	Female	Cerebral palsy	7900/mm^3	9	Conservative Neostigmine	Cure	3

CAD: Coronary artery disease; CHF: Congestive heart failure; DM: Diabetes mellitus; TUR: Transurethral resection

Table 2: Mean data of our study

Patient characteristics (n=11)	
Gender (%)	
Male	Four patients (36.3)
Female	Seven patients (63.7)
Age (year)	74.1±20.9
Mortality rate (%)	18.1
Surgical treatment rate (%)	54.5
Success rate of neostigmine treatment	42.8% (3/7 patients)
Mean duration of hospitalization (day)	10.7±4.6

In spite of conservative treatment, seven patients with no gas-feces discharge were given neostigmine treatment. All patients were monitored and 2.5 mg intravenous neostigmine (Neostigmine® Ampule, Adeka Ilaç, Istanbul, Turkey) was administered over 3 min with slow infusion. One patient had gas-feces discharge after the first administration while two patients had gas-feces discharge after the second administration. The patients were discharged.

Four patients without regression of clinical tableau had administered colonoscopic decompression. Two patients defecated after colonoscopy. The remaining two patients were taken for operation due to lack of response to conservative treatment. These two patients had increased diameter of the cecum, observed to be about 14 cm. One patient without necrosis or perforation of the colon had cecostomy performed while the other patient with serosal tears along the whole colon had subtotal colectomy + ileorectal anastomosis [Figure 2a and b] performed with a protective ileostomy opened. With no complications developing in the postoperative period, the patients were discharged.

Discussion

OS is a disease group difficult to diagnose due to occurrence in the elderly patient group with comorbidities and because it is not considered during differential diagnosis.[4]

The disease is divided into two forms, acute and chronic. In the chronic form, the disease forms linked to ganglion damage; while in the acute form, the disease is triggered by underlying causes such as medications used and a variety of metabolic and neurological disease or immobility.[2] In all, our patients had accompanying diseases.

Vanek and Al-Salti in a 400-patient series stated that in situations related to OS, 7.3% of patients had orthopedic surgery, 9.3% had abdominal/pelvic surgery, 32% had a variety of medical situations including renal failure, metabolic events, or respiratory

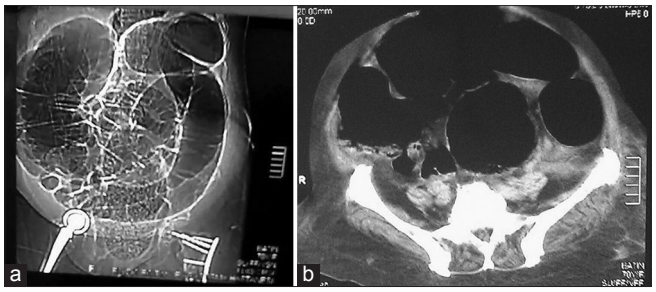

Figure 1: (a and b) Tomography image of the patient who underwent hip prosthesis operation in orthopedics clinic

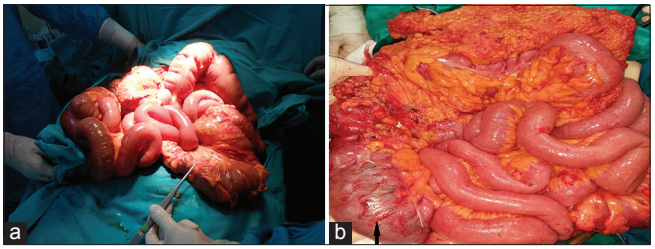

Figure 2: (a and b) View of operation of patient with subtotal colectomy ileorectal anastomosis performed after medical treatment and colonic decompression

failure, and 9.3% had neurological situations.[6] Three of the patients included in the study (patient number: 3, 4, and 7) were patients from different clinics. Due to delayed conservative treatment of these patients, surgical interventions were necessary. Due to delayed diagnosis and treatment, mortality occurred in 1 patient.

Since the beginning of the 2000s, SAGES has published an evidence-based guide.[5] According to this guide, after necrosis and perforation are excluded, initial treatment includes regulation of fluid-electrolyte loss, nasogastric decompression stopping oral intake and any medication implicated in the OS etiology.[5] As a result, an important part of treatment is restoring flui-electrolyte abnormalities. Loftus *et al*. found that the success of conservative treatment was 77%.[7] In our clinic, seven patients given conservative treatment (fluids and electrolyte) did not respond to treatment.

The second stage of treatment comprises pharmacokinetic agents such as neostigmine and cisapride.[2] As it is the medication most studied in the literature and with randomized controlled studies, we administered neostigmine as a medical treatment method to our patients. Mehta *et al*. identified a success rate of 73%.[8] If medical treatment is begun in the early period, the chance of success is high. However, if the duration of dilatation exceeds 72 h, success rates fall and the need for surgical treatment increases.[2] In our series, the success of neostigmine treatment was 42.8%. The reason for low medical treatment success is thought to be delayed treatment and lengthened dilatation duration.[2,4]

According to SAGES, the initial stage of invasive procedures for patients who do not benefit from medical treatment is colonoscopic decompression.[5] Bode *et al*. reported the success rate of the first decompression was 68% while repeated decompression raised success rates to 77%.[9] In our patient series, the success of colonoscopic decompression was 50%.

The final stage of OS treatment is surgical treatment. Definite indications for surgical treatment are colonic necrosis and perforation. Surgical treatment can vary from cecostomy to hemicolectomy or total abdominal colectomy. In the literature, the mortality rates for surgical treatment are between 30% and 60%. The main reasons for high mortality may be listed as the age, comorbid diseases, and development of colonic necrosis and perforation.[4] Our mortality rate was 18%. This rate is in accordance with the literature.[2,4]

Choi *et al*.[10] stated that although there are high rates of ganglion damage on pathological investigation in the chronic form, especially in the acute form, ganglion damage may not occur. In our study, pathological investigation did not identify ganglion damage in any of the six patients.

The limitations of our study are that it is retrospective and has low case numbers. In addition, in our series, the success rates for conservative treatment methods and colonoscopic decompression were 45.45%. We consider the reason for this may be linked to inexperience of our team as we are a low-intensity center.

OS is a disease progressing with acute dilatation of the colon without a mechanical cause. If an early diagnosis can be made up to 90%, it may be treated with support treatment and medical methods such as neostigmine. However, if diagnosis is delayed, it may result in surgical procedures linked to high morbidity and mortality.

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Conflicts of interest

There are no conflicts of interest.

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