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Analysis of Clinical Efficacy and Prognostic Factors of Conservative and Surgical Treatment of Acute Intestinal Obstruction in the Elderly

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Abstract: *Objective:* To comparatively analyze the clinical efficacy and prognostic factors of conservative treatment and surgical treatment for acute intestinal obstruction in the elderly. *Methods:* 84 elderly patients with acute intestinal obstruction admitted to our hospital from February 2025 to February 2026 were selected and divided into a conservative group and a surgical group according to the actual treatment methods, with 42 cases in each group. The conservative group adopted conventional conservative methods such as fasting and water fasting, gastrointestinal decompression, fluid replenishment support, anti-infection, and enema for defecation; the surgical group performed corresponding surgical operations such as intestinal adhesion lysis, intestinal resection and anastomosis based on the specific cause of the patient's obstruction. The time to relieve abdominal pain and distension, the recovery time of anal discharge, and the total length of hospitalization of the two groups of patients were recorded. Various complications that occurred during the treatment were counted. Information such as the patient's age, underlying disease status, duration of onset of obstruction, type of obstruction, etc., was also collected to compare and analyze the relevant factors affecting the patient's prognosis. *Results:* The abdominal pain, abdominal distension, and hospitalization time of patients in the surgical group were significantly shorter than those in the conservative group ($P < 0.05$); however, the probability of complications such as postoperative lung infection and incision infection in the surgical group was higher than that in the conservative group, but there was no significant difference in the overall complication rate between the two groups ($P > 0.05$). Through clinical observation, it can be found that older patients, those with multiple underlying diseases, those with an onset time of more than two days, and those with strangulating intestinal obstruction generally have worse recovery results in the later period. *Conclusion:* When clinically treating elderly patients with acute intestinal obstruction, it is necessary first to distinguish the specific type of obstruction. For simple adhesive intestinal obstruction, conservative treatment can be tried first. Once strangulating intestinal obstruction is diagnosed or conservative treatment is ineffective, surgery must be performed in time. In daily diagnosis and treatment, more attention should be paid to patients who are elderly, have many underlying diseases, and have been ill for a long time, and intervene as early as possible to improve the patient's recovery.

Keywords: Acute intestinal obstruction in the elderly; Conservative treatment; Surgical treatment; Clinical efficacy; Prognostic factors

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1. Introduction

Acute intestinal obstruction is a very common general surgical emergency among the elderly. The incidence rate has always been high. Compared with young and middle-aged people, the elderly have reduced intestinal peristalsis ability. Many elderly people are troubled by constipation all year round. Some patients have had abdominal surgery before, and adhesions can easily form in the abdominal cavity. These are common causes of intestinal obstruction [1]. After an intestinal obstruction occurs, the patient will experience obvious abdominal pain and bloating, and at the same time stop passing gas and defecating. The contents in the intestine cannot pass normally, and the intestine will continue to expand. If the obstruction is not relieved for a long time, ischemic edema will gradually appear in the intestinal wall. In severe cases, intestinal necrosis and intestinal perforation may occur. Once an abdominal infection occurs, systemic inflammatory reactions will easily occur. The body tolerance of the elderly is already weak, so the risk of such problems will be much higher than that of young people. Moreover, most elderly patients are accompanied by hypertension, diabetes, and chronic cardiopulmonary diseases. After the onset of the disease, it progresses quickly. If not treated in time, intestinal necrosis and abdominal infection are likely to occur, and in severe cases, the patient's life will be endangered [2]. Currently, there are two main clinical options for this type of patient: conservative symptomatic treatment and surgical intervention. There are obvious differences between the two methods in terms of applicable groups, recovery speed and later recovery conditions. In the past, when we selected treatment options, we mostly relied on clinical experience, lacked a systematic summary of case data, and there was no unified reference standard for which conditions would affect the recovery of elderly patients. This study collated 84 cases of acute intestinal obstruction in the elderly treated in our hospital from February 2025 to February 2026, compared the actual effects of conservative and surgical treatment methods, and identified the key factors affecting the patient's later recovery. It is hoped that it can provide real clinical reference for elderly patients to formulate treatment plans that are more suitable for their own conditions, and minimize the occurrence of adverse medical events.

2. Materials and methods

2.1. General information

The subjects included in this study were 84 elderly patients with acute intestinal obstruction who were admitted to the emergency department of our hospital's general surgery department from February 2025 to February 2026. All patients were over 60 years old. They were diagnosed after abdominal CT and upright abdominal plain film examination. The patients all had the typical symptoms of abdominal pain, abdominal distension, and cessation of exhaust and defecation, which fully met the diagnostic criteria for acute intestinal obstruction. Based on the actual treatment plan adopted by the patients, all patients were divided into a conservative group and a surgical group, with 42 cases in each group. There were 23 males and 19 females in the conservative group, aged 60–74 (67.3 ± 5.6) years old; there were 25 males and 17 females in the surgical group, aged 61–76 (68.1 ± 6.2) years old. From the perspective of obstruction type, adhesive intestinal obstruction accounts for the majority of patients, followed by fecal stone intestinal obstruction, tumor intestinal obstruction, and a small number of patients suffer from strangulating intestinal obstruction. In order to ensure the rigor of the research results, we have also set corresponding exclusion conditions. Patients with advanced malignant tumors, severe organ failure who cannot tolerate treatment, and incomplete clinical data are not included in this study. There was no difference in the above data between the two groups $P > 0.05$.

2.2. Method

Patients in the conservative group received conventional conservative treatment. Patients are strictly required to fast and drink nothing, and a gastric tube is left in place to decompress the gastrointestinal tract, drain out the gas and gastric juice accumulated in the gastrointestinal tract, and reduce the pressure caused by intestinal dilation. According to the specific situation of the patient's dehydration, intravenous rehydration should be carried out reasonably to correct the problem of water and electrolyte disorders and acid-base imbalance in the body. At the same time, nutritional support should be provided to maintain the body's normal basal metabolism. Combined with the results of the patient's blood routine and infection-related indicators, antibiotics can be used rationally to prevent infections caused by intestinal bacterial translocation. For obstruction caused by fecal blockage, we will use a warm saltwater enema, combined with laxatives to help defecation. During the treatment, we will closely observe the patient's changes in abdominal pain, bowel sounds, and recovery status of flatulence and defecation, and regularly review abdominal imaging examinations to determine whether the obstruction has been relieved.

Patients in the surgery group completed routine blood tests, electrolytes, abdominal CT, and other examinations before surgery, and underwent surgery after evaluation of their condition. All operations are performed by the same group of senior surgeons and strictly follow the principles of aseptic and minimally invasive operations. The surgical method will be selected based on the specific cause of the obstruction. Patients with abdominal adhesions will undergo adhesiolysis. Patients with intestinal necrosis will undergo intestinal resection and intestinal anastomosis. Patients with obstruction caused by tumors will undergo tumor resection or enterostomy surgery based on their physical condition. Strict aseptic procedures are performed during the operation to avoid damage to the normal intestinal tube and mesenteric blood vessels. After the operation, the patient returns to the ward, and vital signs, abdominal symptoms and drainage fluid properties are closely monitored. Abnormalities are dealt with in a timely manner. Gastrointestinal decompression, anti-infection, fluid rehydration and nutrition support are continued. Patients are encouraged to get out of bed as soon as possible to prevent postoperative adhesions and pulmonary infections. After intestinal function is restored, oral intake can be slowly resumed.

2.3. Observation indicators

The total effective rate of treatment, gastrointestinal function recovery indicators (mainly including the time to relieve abdominal pain and distension, time to first flatulence, time to first defecation) and complications (surgery-related complications such as incision infection, abdominal infection, intestinal fistula) were recorded in the two groups. At the same time, clinical data such as the patient's age, number of underlying diseases, duration of obstruction, and type of obstruction were collected to compare and analyze which factors would affect the patient's prognosis.

2.4. Statistical processing

Data were processed using SPSS 26.0 software. The display method of measurement data is mean ± standard deviation (SD), t test; the display method of count data is (%), χ^2 test. $P < 0.05$ means there is a big difference, indicating that the difference between the two groups is statistically significant.

3. Results

3.1. Comparison of treatment effects and gastrointestinal function recovery indicators between the two groups of patients

Comparing the treatment data of the two groups of patients, it can be seen that the total effective rate of treatment in the surgery group is higher than that in the control group; the time to relieve abdominal pain, first flatulence, and first defecation are all shorter than those in the control group ($P < 0.05$). Detailed data can be found in **Table 1**.

Table 1. Comparison of clinical treatment effects and gastrointestinal function recovery indicators between the two groups of patients (%, mean ± SD)

Group	n	Total treatment effectiveness (%)	Abdominal pain relief time (d)	First exhaust time (d)	Time of first bowel movement (d)
Conservative group	42	31 (73.81)	3.31 ± 0.46	4.14 ± 0.52	5.36 ± 0.64
Surgery group	42	40 (95.24)	1.53 ± 0.31	2.07 ± 0.35	3.08 ± 0.45
χ^2/t	-	7.3716	20.7961	21.4020	18.8864
P	-	0.0066	0.0000	0.0000	0.0000

3.2. Comparison of complications between the two groups

A total of 9 cases of complications (21.43%) occurred in the conservative group, and most of the problems were mild water and electrolyte disorders; a total of 15 cases (35.71%) of complications occurred in the surgical group, and there were more cases of lung infection and incision infection due to surgical trauma. There was no significant difference in the overall complication rate between the two groups ($P > 0.05$). The specific data are shown in **Table 2**.

Table 2. Comparison of complications between the two groups of patients [n (%)]

Group	n	Lung infection	Incision infection	Abdominal infection	Water and electrolyte imbalance	Overall incidence
Conservative group	42	3 (7.14)	0 (0.00)	0 (0.00)	6 (14.29)	9 (21.43)
Surgery group	42	7 (16.67)	4 (9.52)	2 (4.76)	2 (4.76)	15 (35.71)
χ^2	-	-	-	-	-	2.1000
P	-	-	-	-	-	0.1473

3.3. Analysis of factors influencing the prognosis of acute intestinal obstruction in the elderly

Based on the clinical diagnosis and treatment of 84 patients this time, it was found through comparison that patients who are over 75 years old, combined with three or more underlying diseases, whose obstruction onset time exceeds 48 hours, and who have strangulating intestinal obstruction generally have unsatisfactory recovery results after treatment, and have a higher probability of complications and prolonged hospitalization. Such patients have weak physical conditions and insufficient organ reserve capacity. Faced with the blow caused by obstruction, the body cannot tolerate it well. Whether it is conservative treatment or surgical treatment, their recovery will be much slower than that of ordinary patients. They are also high-risk groups that we need to focus on in clinical diagnosis and treatment.

4. Discussions

The diagnosis and treatment of acute intestinal obstruction in the elderly has always been a difficulty in the emergency work of general surgery. The physical functions of the elderly are constantly declining, and their stress tolerance is far inferior to that of young and middle-aged patients. Many patients have unstable underlying diseases and their intestinal tract itself has problems of slow peristalsis and weak blood supply. Once intestinal obstruction occurs, the progression of the disease will be significantly accelerated. The biggest advantage of conservative treatment is that it does not require invasive operations, has little impact on the patient's body as a whole, and the treatment process is relatively mild. It is usually suitable for patients with mild illness. Surgical treatment can directly relieve the obstructive lesions and quickly restore intestinal patency, which is a conventional method for dealing with severe obstruction. However, elderly patients have special characteristics in terms of physiological functions and underlying diseases. Elderly patients have poor tolerance to anesthesia. The trauma caused by surgery will further increase the burden on the body. Cardiopulmonary-related complications are prone to occur after surgery. Incisions heal slowly, and the risk of infection is also significantly increased [3].

The results of this study show that surgical treatment has significant advantages in overall effectiveness and can relieve clinical symptoms and restore intestinal function more quickly. Direct surgical intervention can quickly relieve the cause of mechanical obstruction, such as loosening adhesions, resecting tumors or necrotic intestinal segments, and restoring incarcerated hernias, thereby fundamentally solving the problem and avoiding the vicious cycle of progressive intestinal dilation, edema, ischemia, and even necrosis caused by persistent obstruction. Especially for intestinal obstruction that is complete, mechanical, or has signs of blood supply impairment, timely surgery is the key to saving lives and improving prognosis [4]. However, the effectiveness of surgical treatment does not mean that it is suitable for all elderly patients. In this study, the overall complication rate in the surgical group was higher than that in the conservative group. This requires clinicians to strictly control the indications for surgery. They cannot blindly pursue the quick relief of obstruction and perform surgery blindly, nor can they be too conservative and delay the patient's treatment opportunity. Judging from the clinically observed prognostic factors, advanced age, superposition of multiple basic diseases, long onset time, and strangulating obstruction will directly affect the recovery effect of elderly patients. The organ reserve capacity of elderly patients is very poor, and once infection occurs, it is difficult to control it with their own immunity; the coexistence of multiple basic diseases will interfere with each other, and fluctuations in blood sugar and blood pressure will delay intestinal function and incision healing; after the obstruction exceeds 48 hours, the ischemic damage of the intestinal tube will continue to increase, and even if the obstruction is subsequently relieved, the recovery rate of intestinal function will also be slower; strangulating intestinal obstruction itself has the risk of intestinal necrosis, the condition itself is relatively critical, and the probability of adverse prognosis will naturally be higher [5]. When we usually treat elderly patients with intestinal obstruction, we must first quickly complete the abdominal CT examination to clarify the location of the obstruction, the cause of the obstruction, and the blood supply of the intestinal tube. For patients with poor physical conditions, many underlying diseases, and incomplete obstruction, standard conservative treatment can be performed first, and the patient's vital signs and abdominal signs should be closely monitored throughout the process. Once the patient's abdominal pain continues to worsen, his body temperature rises, and imaging examinations indicate intestinal ischemia, he must decisively switch to surgery to avoid irreversible intestinal necrosis. At the same time, for high-risk patients who are elderly

and have many underlying diseases, it is necessary to strengthen the protection of organ function during treatment, strictly control blood pressure and blood sugar, prevent infections in advance, guide patients to move appropriately in bed, reduce various complications caused by bed rest, and maximize the recovery of patients.

Based on the diagnosis and treatment data of 84 elderly patients with acute intestinal obstruction, it can be seen that both conservative treatment and surgical treatment are suitable for each group. Conservative treatment has less trauma and a low complication rate, and is suitable for patients with simple intestinal obstruction who are in stable condition. Surgical treatment can relieve obstruction faster and is a necessary choice for patients with strangulating intestinal obstruction and for whom conservative treatment is ineffective. However, the risk of complications related to surgery is relatively higher. Older age, multiple underlying diseases, longer onset time, and strangulating obstruction are the main reasons for the poor prognosis of elderly patients. When clinically dealing with acute intestinal obstruction in the elderly, a one-size-fits-all treatment model cannot be adopted. A comprehensive assessment must be conducted based on the patient's obstruction type, physical tolerance, and underlying disease conditions, and the timing of conservative treatment and surgical treatment must be accurately determined. For high-risk patients, it is necessary to protect organs and prevent complications in advance, and dynamically observe changes in the patient's condition throughout the entire treatment process. On the premise of ensuring the safety of treatment, we can speed up the recovery of the patient's intestinal function, shorten the length of hospitalization, reduce the risk of long-term recurrence, and effectively improve the treatment effect and quality of life of elderly patients.

Disclosure statement

The author declares no conflict of interest.

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