Original Article

Surgical Management Of Small Bowel Obstruction In Adults

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Abstract

Acute paralytic ileus, also known as postoperative ileus, is a condition characterized by temporary weakness or cessation of normal bowel movements. It is often the result of various factors, such as surgery, medication side effects, electrolyte imbalances, or underlying medical conditions. This condition can greatly affect the patient's quality of life and requires immediate medical attention.

In this case, we will discuss a patient with acute paralytic ileus who also had a previous history of mild depressive episodes. While these two conditions may seem unrelated, it is important to consider the potential impact of a patient's mental health history on their overall well-being and recovery.

PURPOSE: The purpose of this case study was to report improvement in the condition of a patient with acute paralytic ileus and a history of mild depressive episodes after treatment with acupuncture and herbal medicine.

METHODS: A paralyzed patient with acute abdominal pain was treated with acupuncture, herbal medicine, and manual therapy, changes in basic symptoms and abdominal discomfort are noted.

RESULTS: A patient with severe abdominal pain, constipation, and anorexia due to acute paralytic ileus was treated. After about a month of treatment, the symptoms improved.

CONCLUSIONS: This study indicates that conservative herbal therapy can help psychologically stabilize a patient in abdominal pain caused by acute paralytic ileus.

Introduction

Intestinal obstruction is a disease that has been mentioned since the time of Hippocrates, and the death rate was very high with non-surgical treatment until the nineteenth century. Pseudo-obstruction can be defined as a disease complaining of flatulence and abdominal pain similar to gastrointestinal obstruction in the small or large intestine without organic lesions that could cause obstruction in the gastrointestinal tract. Clinically, the disease may be acute or chronic and recurrent in some cases, this occurs as a result, doctors often find it very difficult to treat. With regard to modern medicine currently present in Jordan, intestinal obstruction belongs to the category of gastroenteritis, intestinal rhizopathy, stomach ulcers and intestinal obstruction. Symptoms such as stomach pain, flatulence, abdominal pain, etc. appear due to inversion, congestive heart failure, and inability to turn. Treatment is carried out using modern medicine therapy, enema, etc. Medicine mainly focuses on lowering the common law, and treatment methods are used according to the symptoms. Depending on the patient's different conditions.

Regarding the medical treatment of acute intestinal obstruction, the researcher stated, “Symptoms were improved by oral administration of ginseng to patients with acute intestinal obstruction, and 7) et al. An effective oral effect has been reported. and Lee8) et al. They reported improvement with catheterization in patients with ileus after gastric

cancer surgery. However, most of the clinical papers reported to date are cases of chronic intestinal obstruction, and clinical symptoms of acute intestinal obstruction have been reported.

There are not many reports of supplementation, and most cases have used methods to resolve the intestinal obstruction itself rather than treatment according to the argument. The authors therefore underwent abdominal surgery for intussusception at the age of 7 months. At the age of 19, a patient with a mild depressive episode and exclusionary manic depression recently showed acute ileus, which led to a diagnosis of intussusception and treatment of medicine according to dialectics, basic Western medicine. This report is because the symptoms The result of the treatment and the method of hand retraction improved without surgical treatment.

Aim of the study

The aim of the study was to investigate the case of a patient with acute paralytic ileus with a previous history of mild depression, which could include several aspects:

- Understanding the relationship between acute paralytic ileus and a previous depressive state: the research may aim to study whether there is an association between a previous history of mild depression and the occurrence of acute paralytic ileus, and whether the depressive state contributes to an increased risk of developing this disease.
- Understanding Treatment Considerations Related to History of Depression: Research may aim to explore treatment considerations for patients with acute paralytic ileus and a history of mild depression. These considerations may include the use of antidepressants in the treatment of acute paralytic ileus or precautionary measures to avoid aggravation of depression during treatment.

THE BODY

Basic history and initial examination of the patient

1) The patient

Hassan, male, 23 years old

2) Title card

Stomach problems, stomach problems, bad eating habits, small pockets

3) The start dates

February 26, 2023

4) Past history

Abdominal surgery for intussusception at the age of 9 years

5) Family history

Nothing like his condition.

6) Onset motivation and current medical history

After emergency treatment at The Specialty Hospital due to sudden abdominal pain on the day the disease appeared, he was diagnosed with intestinal obstruction and surgery was recommended.

7) The recovery periods

2023.02.27. ~ 2023.03.20.

8) Postoperative results

Sleep: insomnia

Eating and digestion: chronic indigestion

Stool: 1 time / 4 days, constipation on the third day

Urine: decreased from February 26, 2023 (the day it appeared).

* Medicines taken in the hospital: none

* Evaluation

1) Medicine

Stomach line, stomach, stomach pain

2) Both sides

Paralytic ileus

9) Healing needle and cylinder connected

The stent was opened using a stent (oriental blade, 0.3 × 30 mm, stainless) and a manual blade (oriental blade, 0.18 × 8 mm, stainless). The knuckle, three-limbs, and lower quadrants are treated as body rolls.

The procedure was performed once a day, focusing on the abdomen and abdominal region.

The patient's condition

The patient Hassan, aged 23, had severe abdominal pain, bloating, and inability to pass stools or gases. In addition to the physical symptoms, the patient showed signs of depression, such as a bad mood, loss of interest, and decreased appetite. A comprehensive medical evaluation, including laboratory tests, radiographic imaging, and psychological evaluation, was performed to determine the diagnosis and guide the treatment plan.

The patient's medical history revealed a previous episode of mild depressive symptoms that resolved without specific treatment. It is important to note that depression itself can have gastrointestinal manifestations, such as functional bowel disorders, and may predispose individuals to certain medical conditions.

A multidisciplinary approach involving gastroenterologists, psychiatrists and general practitioners was crucial in managing this complex condition. The treatment plan consists of a combination of medical interventions and psychological support. Nasogastric decompression, intravenous fluids, and pharmacological measures, including motility-inducing agents, have been used to restore bowel function. At the same time, psychotherapy sessions, cognitive behavioral interventions, and close monitoring of the patient's mental health were implemented to address depressive symptoms.

Over the course of treatment, the patient's bowel function gradually improved, and symptoms of depression showed significant improvement. A comprehensive care plan, including post-discharge follow-up appointments and coordination between the medical and psychiatric team, was established to ensure continued patient well-being and prevent relapse.

This case study emphasizes the importance of recognizing and addressing the interaction between physical and mental health conditions. It highlights the importance of a multidisciplinary approach involving healthcare professionals from different disciplines to improve patient care and outcomes in complex cases. Further research is warranted to explore

the potential bidirectional relationship between acute paralytic ileus and depressive disorders, as well as to develop evidence-based guidelines for the effective management of such conditions.

Abdominal X-ray Plain X-rays of the abdomen showed a large amount of small bowel gas and an ileus pattern

Computed tomography showed gas filling the loops of the small intestine and stasis of stool without evidence of mechanical obstruction.

The contrast-enhanced CT scan of the patient's abdomen in this image shows severe distension of the large and small intestines with air and fluid levels.

Explain the patient's condition shown in the X-ray images

Photo A) Abdominal X-ray is a diagnostic procedure used to evaluate and monitor the condition of the abdomen and intestines. Plain X-rays of the abdomen are used to detect changes in the structure of the intestine, tumors, gas formation, and other internal developments.

In the patient's specific case, plain X-rays of the abdomen showed significant small bowel gas and an ileus pattern. Small intestinal gas refers to the accumulation of gases in the small intestine. This can occur due to several possible causes such as inflammation of the intestines or mechanical obstructions in the intestines.

Obstruction pattern (ileus pattern) refers to the presence of partial or total obstruction in the intestinal tract, which leads to the accumulation of gases and fluids in the prolapsed part and prevents the movement of the intestinal content normally. This pattern may be due to several causes such as intestinal adhesions, bowel tumors, bowel inflammation or other obstruction.

Through these radiographs, the location and size of gaseous accumulation and the pattern of obstruction are estimated. Early detection of these changes can help doctors determine the correct diagnosis and develop the appropriate treatment plan for the patient.

Image B) In this specific case, a CT scan of the small intestine was performed, and the images show gas filling the loops of the intestines and the collection of stools without any mechanical obstruction preventing the flow of food or liquids through the intestines.

The presence of gas in the small intestine can be due to several causes, including a mechanical obstruction, but in this case, there is no evidence of a mechanical obstruction. However, loose stools can indicate irregular bowel movements or poor function, and can be the result of factors such as bowel inflammation, changes in diet, or other possible causes.

Image C). Diagnostic imaging shows severe distension of the large and small intestine. The presence of air and fluid levels indicates that there is a buildup of gases and fluids in the intestines, which can be an indication of a health problem such as a bowel obstruction or inflammation of the intestines.

Literature Review

(Jardim, 2023) Due to the recent dietary changes and pressures faced by modern humans, colon diseases are rapidly increasing. According to the National Bureau of Statistics, stomach cancer was the most common type of cancer in 2008, (Yosr Hamdi,Ines Abdeljaoued-Tej, 2021) followed by thyroid cancer, colon cancer, lung cancer, liver cancer, breast cancer, and prostate cancer. Colorectal cancer is the third most common type of cancer in the world, accounting for 5.8% of all cancers between 1980 and 1982, but has gradually increased to 12.8% of all cancers in 2008. The incidence of colorectal cancer per 100,000 population has increased from 27.0 in 1999 to 50.3 in 2009 in both males and females, a high annual rate of change of 6.7%. (Sung, 2021) The incidence of colorectal cancer is gradually increasing among individuals who eat a diet rich in fat and protein such as Westerners, and it is expected that more patients will develop colorectal cancer in the future. Colon cancer and other colon diseases, including bowel obstruction, are on the rise. (Jesus, 2023)

Intestinal obstruction is a condition in which the contents of the digestive tract are not transported into the lower intestinal tract due to a condition caused by paralysis of the intestinal muscles or a physical barrier in the intestine. (Capt.S.Nedunchezhian, 2020) The first is called mechanical occlusion, and the second is non-mechanical occlusion. Spasmodic ileus is a condition in which the bowel becomes obstructed due to spasm of a portion of the bowel and paralytic ileus is a condition in which the bowel flow is altered. It is a disease in which the contents of the intestine gradually weaken and become paralyzed, making the passage of the contents of the intestine difficult. (Canny,Brookes, 2017)

(Virgilio, 2019) When acute paralytic pseudomembranous bowel obstruction is diagnosed, distention of the small intestine is rarely seen on abdominal radiographs, and obstruction of the distal colon is most often associated with localized dilatation of the proximal colon. (Nehring, 2022) Clinical signs and symptoms include bloating, nausea, vomiting, and abdominal pain, usually performed and the cycle monitored. If no improvement occurs within 48 hours or if the clinical condition worsens, surgery is performed immediately. (S, an Steensel, 2018) Conservative treatment includes fasting, insertion of a tube to relax the bowel, fluids to prevent dehydration, and sometimes enemas. (R, Behman, 2018)

(Goldstein, 2016) Acute paralytic false ileus is known to result mainly from autonomic nervous system abnormalities caused by other systemic diseases. Since the underlying cause of the clinical symptoms characteristic of this disease is not known with certainty, the exact clinical features and treatment regimen of this disease have not been determined. (Weledji, 2020) Acute paralytic pseudomembranous intestinal obstruction occurs after surgery, diagnostic tests, or post-traumatic stress disorder and results from secondary peritoneal invasion by chemicals, pancreatic enzymes, bacteria, or a systemic electrolyte imbalance. (Goldstein, 2016) Secondary local hypoxia occurs due to secondary metabolic changes as a result of the synthesis of acetylcholine, the action of enzymes involved in the synthesis of acetylcholine, or the loss of the functional structure of acetylcholine due to poor blood supply. (Toolkit, 2021) The mechanical movements of the abdominal wall are reduced. It happens after waking up. Currently, autonomic nervous system imbalance is supported by stimulation of the parasympathetic nervous system as a pathogen. The parasympathetic nervous system is especially inhibited in stressful situations. (Luyer, 2019) As a result, peristalsis in the gastrointestinal tract is reduced, gastric emptying time is prolonged, secretory activity of the gastrointestinal tract is reduced, contraction of the gallbladder is inhibited, and all gastrointestinal muscles are not properly stretched, resulting in intestinal outlet obstruction. From a neuroscience point of view, it is believed that the autonomic nervous system is connected to the meridians and many studies have been conducted. It has been reported that the distribution of the stomach and gastric lining are related to each other in anatomical position and function, and the visceral function was mainly (Ayers., 33) dependent on the autonomic reflex of the sympathetic nervous system in the chord part spinal cord through the afferent pathway for the senses. As stress is one of the causes of various diseases in modern society, it is closely related to our lives. The disease caused by this disorder is called psychosomatic, and the fact that the sympathetic nervous system is overactive during stress or that the parasympathetic nervous system is chronically active explains the mechanism by which these diseases occur. (Premsberger, 2023)

(Filipčíková, 2020) In addition, even under a state of stress felt by the patient, there are differences in the degree of stress depending on individual characteristics, and many studies using actual psychophysiological measurements have revealed that there are individual differences in physiological responses to stress. Abnormalities of the autonomic nervous system and psychosomatic diseases resulting from such stress have been invoked in medicine. It is said that functional disorders occur in the human body when the intestine is stagnant and its activity rate is low, and the researcher confirms that frustration and depression play a major role in this matter, as a person's lethargy and lack of movement may cause intestinal paralysis. The researcher said (Pollak, 2020) , "A phenomenon in which all physiological functions deteriorate due to a repressed and gloomy mental state, resulting from uncontrollable dissatisfaction, constant sadness, excessive regret or sadness, etc. Where it should be noted that depression and lethargy in general can lead to Changes in eating habits and lifestyle. Persistent sadness and anxiety can lead to decreased appetite or nutrient deficiencies, sometimes resulting in nutrient deficiencies and a weak digestive system. Lack of physical activity and exercise can further weaken the muscles in the intestines and increase the likelihood of bowel problems Gastrointestinal system: With regard to Jordanian medicine, intestinal obstruction belongs to the category of “digestive system obstruction,” and its symptoms mainly appear, such as pain that may be sharp and intermittent, or continuous and excruciating. The pain may be in a specific area of the abdomen or spread throughout the abdomen. Abdominal swelling, so that the abdomen can be swollen and distended as a result of the retention of gases and fluids behind the obstruction area. Small bowel obstruction is a condition in which the movement of food and fluids in the small intestine is disrupted due to a mechanical obstruction. Constipation can be caused by a variety of factors, including blood clots, tumors, scarring, inflammatory swelling, and external pressure on the bowel. (Filipčíková, 2020)

Discussion

Based on this information, in this case, this patient underwent abdominal surgery for intussusception at the age of 9 years, and had a history of mild depressive episodes and exclusion of manic depression at the age of 19 years. Given the patient's living environment, introverted personality, chronic indigestion, insomnia, loss of appetite, decreased bowel movement due to decreased energy due to severe stress, and symptoms of pseudo-intestinal obstruction due to the liver. It has been reported and treated. At the time of hospitalization due to intestinal obstruction, there was difficulty in managing the JMD and intestinal perfusion was not possible. After a week, the stool passes and gases begin to pass, so at first the effect of low energy in the stomach was focused on, and the four-way solution was used, and after about 10 days, the recovery was slow because of the low energy, due to the lack of vitality, it was treated with a compound prescription Rifaximin, where it is used For various types of congestive infections with the effect of lowering blood temperature, and treats symptoms such as heartburn, constipation, poor circulation and stomach weakness. (Paret, 2023)

It is a recipe that removes erythrocytes and red blood cells from red blood cells, and is widely used for various ailments related to kidney disease. In particular, it is used to treat small and large diseases such as red blood cells and blackheads with the effect of lowering and reducing blood pressure caused by ancestral qi deficiency, low blood pressure and kidney disease. As a result of treatment for about 20 days with these prescriptions, plus the use of moxibustion, the patient who was hospitalized as an emergency after surgery was recommended for acute paralytic ileus showed a better response and were discharged on foot. At the time of entry, the living environment, various pressures, and introverted tendencies worked together, resulting in insomnia and indigestion due to sympathetic abnormalities, nutritional imbalances, and even intestinal obstruction. Since it is an acute disease, fluids such as glucose or protein were provided in parallel according to the patient's variability, and the abnormal inhibition of the parasympathetic nerve could have been corrected by trying to improve blood pressure and normal blood pressure. As a result, basic bowel movements, eating conditions, abdominal stiffness were eased, a normal diet became possible, and the patient was discharged from the hospital. (Goldstein A. M., 2016)

Study results

Surgical management of small bowel obstruction

Surgical management of small bowel obstruction through the use of, primarily, abdominal radiography is performed in most patients with suspected small-bowel obstruction because it is accurate and widely available. The reported radiological accuracy for diagnosing Small-bowel obstruction ranged from 50% to 86%. Differences in accuracy are due in part to study design, patient selection, inconsistent use of unindependent radiographs, use of the term 'uncertain intestinal gas pattern', and inclusion of recently operated patients in whom ileus and SBOs are difficult to distinguish. (Doerr., 2020)

Small-bowel obstruction tomography technique

Traditionally, patients suspected of having SBO are routinely given high concentration oral contrast agents. Oral contrast agents can be barium or iodine. An advantage of oral administration of contrast media is that they pass through the bowel uncompressed, which excludes advanced obstruction. In several of the new (a) groups, SBO patients may present with nausea and vomiting, which may lead to aspiration. (b) Contrast medium barely covers the intestine near the point of transition for high-grade obstruction. (c) Low-attenuation liquids and gases within the entrained lumen provide better contrast than the normally dilated intestinal wall obscured by high-attenuation oral contrast media. Elimination of the oral contrast agent also eliminates a two-to-three-hour delay in performing a CT scan. Our group can better interpret CT scans for suspected BOS without the use of oral contrast agents. (Nelms, 2021)

Computed tomography findings of small-bowel obstruction

Multidetector CT is the best imaging modality when BOS is suspected. Multidetector CT has a sensitivity and specificity of 95% for the diagnosis of advanced SBO and is less accurate for partial occlusion. The defining feature of radiographs is distention (>2.5 cm) of the proximal small intestine, with the distal small intestine and colon uncompressed. The air fluid level will be displayed and a number of bars may be displayed. In the case of chronic or advanced obstruction, the retention of the contents of the small intestine and its mixing with gases leads to the appearance of stool in the colon, which is a sign of "small bowel stool". It is worth noting that the advantage of CT over radiography is the increased certainty in defining the transition region where the expanded field changes to an uncompressed field. Where the exact cause of the intestinal obstruction can be found. In addition, CT allows an excellent evaluation of the intestinal wall, vasculature and adjacent mesentery and allows identification of appropriate cases of ischemia and/or infarction. Computed tomography also allows an excellent assessment of the presence of intestinal perforation and the presence of extraluminal gas. (Goor, 2018)

A finding in previous studies is that, between 60% and 70% of SBOs result from adhesions, most of which result from previous abdominal surgery (open or laparoscopic). Adhesions are bands of fibrous tissue that block the hole and are the result of the inflammatory process after surgery. It can lead to an ileus soon after surgery or years later. The adhesions themselves are usually not found on a CT scan. Instead, its presence is inferred when there is an abrupt transition from an expanding field to a collapsing field with no apparent cause in the transition region. When adhesions press on the outside of the intestine, there is often a sudden narrowing or "rise" at the site of the obstruction. Besides, external hernia is the second most common cause of SBO. It can occur anywhere in the abdomen and pelvis, but most commonly in the inguinal canal or the anterior abdominal wall. The hallmark of SBO due to a hernia is invasion of the distended intestine into the hernial sac, followed by uncompressed intestinal outflow from the hernial sac. In patients with a known primary tumor and SBO, the most likely cause is metastatic disease of the bowel or peritoneum. Surgeons are reluctant to operate on these patients because malignant tumors may be the cause of the obstruction, but multiple abdominal metastases usually occur, and surgical treatment of all of these metastases is usually not possible or appropriate. (Hassanabad, 2021)

We confirm, through previous studies and the case related to the patient, that acute obstruction of the small intestine is an important medical and surgical necessity. There can be a whole range of symptoms, such as abdominal cramps, vomiting, bowel movements and bloating. Abdominal radiographs, which are no longer routinely performed, show

typical radiological symptoms. A CT scan of the abdomen can confirm the diagnosis, treat the cause of the obstruction, and look for signs of seriousness that may require urgent surgery. Acute small bowel obstruction has multiple causes, mainly peritoneal marginal obstruction or adhesions, accounting for approximately 75% of all cases of acute small bowel obstruction. A clearly defined and correctly performed non-surgical treatment that combines nasal aspiration with the administration of a modern aqueous medium is central to the treatment strategy and that emphasizes the importance of surgical management. It should be noted that urgent surgical management includes causes such as suffocation, mitral hernia and internal strangulated hernia. In this case, urgent treatment is required, since the blood vessels of the affected area of \u200b\u200bthe intestine are involved in blockage. finally. Surgery plays an important role in treating these various causes: it removes the macula, treats the lacrimal joint, and takes into account the possible consequences of the blockage. Laparoscopic procedures are being used increasingly. The cause of the obstruction, the patient's condition, and the general experience of the surgeon should be discussed on a case-by-case basis, as we did with Hassan. (Goldstein A. M., 2016)

Conclusion

In conclusion, the treatment of small bowel obstruction remains challenging, given the wide range of clinical presentation and the multiple variables that must be considered to decide whether or not surgical treatment is necessary, so it is necessary to distinguish at the outset, as it allows us to orient the different treatments that we can offer. In addition, the widespread use of CT scans for the diagnosis of small bowel obstruction has positioned it as a valid diagnostic tool. It should be borne in mind that the cause of small bowel obstruction sometimes leads to the need or not to have surgery. In this case report, a patient who underwent abdominal surgery for intussusception at the age of 9 years, was diagnosed with mild depressive episode and excluding manic depression at the age of 19 years, and was diagnosed with acute ileus due to sudden abdominal pain at this age. Of the 23 patients, he recommended surgery, and this condition was improved with conservative treatment at Al Takhassusi Hospital. This patient was diagnosed as having acute intestinal obstruction due to low gastric qi due to low gastric qi. To restore psychological stability and abnormal suppression of the parasympathetic nervous system, now modern medicine, drugs, moxibustion, and acupuncture were used to treat the patient. Based on this case, more research should be done in the future to find out that conservative treatment can be done by interpreting it in a Korean way in case of paralytic disease.

The limitations of this study are multiple: on the one hand, it is a retrospective review with all the problems these present. On the other hand, the patient's case that was studied may differ from other existing cases, so it may be a study related to a specific case only in the presence of a huge number of pathological cases of acute intestinal obstruction that are discovered to this day. In addition to the difficulty of accessing previous studies related to the subject of our study on search engines and Google Scholar, which required time and effort to extract information, compile it, and link it appropriately with our study, to be integrated and useful information.

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