

Nursing Care In A Patient With Short Bowel Syndrome After Ileus Surgery: A Case Report

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CASE REPORT

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Ethics Approval
After the patient is informed about the study, oral and written consent is obtained and confidentiality of private information about the patient is ensured. It is stated that it will be protected.

Conflict of Interest
There is no conflict of interest.

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Data Availability
Data supporting the findings of this study are available upon reasonable request can be obtained from the corresponding author.

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A B S T R A C T

Ileus is a process that involves complications that greatly affect the quality and duration of life of patients. It is a short bowel syndrome characterized by intestinal failure, which is one of the complications that develops after ileus. In addition to improving the quality of life of these individuals with effective nursing care; It has been shown in studies that a reduction in morbidity and mortality is achieved. Gordon's Functional Health Patterns Model, one of the nursing models, handles post-ileus intestinal failure patients with a holistic approach and provides systematic nursing care. In this case report, the nursing care of the individual with post-ileus short bowel syndrome was planned according to this model.

Keywords: nursing care, short bowel syndrome, ileus, nutritional care

INTRODUCTION

Ileus is a partial or complete obstruction in the gastrointestinal tract (GIS) that prevents the intestinal contents from passing distally. We can list the causes of mechanical ileus as postoperative adhesions, extraintestinal causes such as volvulus and incarcerated hernia, pathologies in the bowel wall such as neoplasias, and causes originating from the intestinal lumen such as bezoars (Long et al., 2019). Deterioration in intestinal motility after surgery or trauma, ischemia, infection, electrolyte disorders and drugs are the most common etiological factors. Ileus is one of the most important factors that increase hospital morbidity (Fischer et al., 2016). The most common clinical symptoms in patients monitored for intestinal obstruction are abdominal pain, inability to pass gas and stool, abdominal distension and vomiting. Acute intestinal obstructions account for 15% of abdominal pain emergencies and are one of the most

common causes of abdominal surgery (Tong et al., 2020). Patients undergoing ileus surgery are often admitted to the intensive care unit (ICU) for postoperative follow-up and care. It is a problem that may require ICU monitoring and may be fatal, especially in patients with high comorbidities that require surgery. Loss of intestinal sections during ileus surgery is one of the most important complications (Aka et al., 2021). This situation can lead the person to live with short bowel syndrome, which leads to intestinal failure.

Short bowel syndrome (SBS) is an intestinal disease that causes loss of nutrients, fluids and weight by greatly reducing the surface area of the small intestine. SBS is defined as small intestine length remaining <200 cm after the surgical procedure. This decrease in absorbent surface area increases the rate of passage of food through the intestine, causing some symptoms (Pironi, 2023). When the signs and symptoms are considered, electrolyte disorders, calcium, magnesium, zinc and iron deficiency, vitamin

Table 1. Evaluation of the Case According to Functional Health Patterns		
Functional Health Patterns	Diagnostic Features Of The Case	NANDA-I Nursing Diagnosis
Health perception -health management pattern	The patient has regular health checks due to the operations he had had since childhood and the autoimmune diseases had in his family. He states that he had difficulty coping with the stress of losing a part of his intestine after ileus and the complications that developed in the postoperative period.	00078-Risk of Ineffective health management
Nutrition-metabolic pattern	The patient's body mass index was calculated as 19.1. The patient, who had loss of appetite, lost 8 kg in the last 3 months. In the postoperative period, symptoms of distension, vomiting and diarrhea occurred during the patient's transition to oral feeding (postoperative day 3) due to motility disorder. The patient had bowel movements of 11/min and had reluctance to eat due to pain, especially in the right lower quadrant. Intraoral evaluation in daily life The patient, who brushes his teeth twice, has recently experienced loss of appetite and loss of taste. It has been reported that there is deterioration. It was determined that the patient, who received oxygen and nebule therapy with a nasal cannula, had dry mouth. Dryness is evident around the lips and on the tongue. Therefore, the patient was started on oral care with 4x1 sodium bicarbonate.	00002-Imbalanced Nutrition: less than body requirements 00197: Risk for dysfunctional gastrointestinal motility Risk of paralytic ileus 00007: Diarrhea 00247- Risk of disruption of oral mucous membrane
Elimination pattern	His purchases and deductions are in balance (-730 balance), the patient, who defecates every day in daily life, had diarrhea and dark-colored, smelly defecation on the 3rd day after the surgery. The patient has bowel sounds of 11/min and has distension and intense gas accumulation.	00025- fluid volume imbalance
Activity-exercise pattern	At the time of admission to the clinic, it was observed that the general body cleanliness was in good condition, the muscles were toned, there were no contractures, and joint range was normal. Mobilization and positioning support was provided to the patient in the postoperative period. Since Itaki's fall risk score is 10, the bed edges have been removed. The Braden scale score is determined as 20 points. It was observed that the patient described severe fatigue after mobilization and stated that his energy was insufficient to perform daily tasks.	00093: Fatigue
Cognitive-perceptual pattern	The conscious patient is oriented to time, place and person. No problems with near and remote memory were detected in the cooperative patient. Pupils are isochoric, there are no problems with vision, hearing, peripheral sensory perception and smell. The patient has widespread, cramp-like VAS: 8/10 pain in the abdomen during the postoperative period. The exit of the flatus is supported by the patient's left side lying position. Pharmacologically, tramadol 2x100 mg and hyoscine-N-butylbromide 3x20 mg intravenously were started, as requested by the physician. After pharmacological and non-pharmacological methods, the patient determined his pain as VAS: 3/10 on the 7th postoperative day.	00132:Acute pain
Sleep-rest pattern	The patient stated that he had long-standing problems with falling asleep and staying asleep, and that postoperative treatment and care processes increased his insomnia. When the sleep cycle of the patient, who was observed to doze off occasionally during the day, was evaluated, it was determined that he woke up for 60-70 minutes and observed his surroundings. Its Pittsburg Sleep Quality Index (PSQI) score was evaluated as 15.	00198: Disturbed sleep pattern
Self Perception-Self concept	The patient has widespread, cramp-like VAS: 8/10 pain in the abdomen during the postoperative period. The exit of the flatus is supported by the patient's left side lying position. Pharmacologically, tramadol 2x100 mg and hyoscine-N-butylbromide 3x20 mg intravenously were started, as requested by the physician. After pharmacological and non-pharmacological methods, the patient determined his pain as VAS: 3/10 on the 7th postoperative day.	00132: Acute pain
Role and Relationship	The patient has social support systems. The patient is visited by his wife and relatives, and his problems in initiating and maintaining communication with his relatives and healthcare team have not been identified. The patient's companions throughout his hospitalization were his wife and father. It was observed that the patient, who has a 1-year-old child, had concerns about his son. The patient did not want his son to visit with his nasogastric tube inserted. He stated that he cried with emotion when the visit was made after the catheter was removed and that he wanted to go home as soon as possible and return to his daily life with his child and wife.	
Coping-stress tolerance pattern	The patient stated that he had not been able to fulfill his family responsibilities for about 3 months due to the illness and that he had to live separately from his family during his duty due to the COVID-19 pandemic. For this reason, he is very worried about becoming a father and about the negative impact on his relationship with his son. He started receiving pedagogue support during this process and stated that he planned to get help after discharge.	00063: Interruption in family processes
Sexuality-reproductive pattern	It has been observed that his appearance matches his sexual identity.	
Value-belief pattern	It was observed that the patient also performed his regular prayers in the hospital room.	

B12 deficiency, deficiency of fat-soluble vitamins, lactose intolerance, metabolic acidosis, cholesterol biliary stone and renal oxalate stone formation, dehydration, diarrhea and weight loss are observed (Siddiqui et al., 2021). The most common causes of SBS in adults are mesenteric infarction, dysmotility, Crohn's disease, obstruction, trauma, and radiation, while the most common causes in childhood are atresia, volvulus, Hirschsprung disease, necrotizing enterocolitis, and inflammatory bowel disease (Radetic et al., 2023). Nursing care for individuals with these diseases includes education about SBS and providing information about risks, including primary preventive care.

CASE REPORT

Data collecting

The data of the case who received inpatient treatment with the diagnosis of ileus in the generally surgery service between 12.03.2021-24.03.2021 were collected face to face. It was collected throughout the caregiving period by interview method.

Case

This 35-year-old male patient (height: 172 cm, weight: 59 kg) was admitted to the general surgery clinic for surgery due to recurrent ileus attacks in March 2021. On March 21, his biochemical test results was no electrolyte imbalance and were normal thyroid function tests and other blood tests. Colonoscopy revealed that both the small intestine and the colon were highly dilated. However, no lesion that could explain the dilatation was observed. After the decision for surgery was made, the patient was admitted to the clinic for surgical preparation. Since August 2020, the patient had repeated abdominal discomfort, sometimes accompanied by hiccup, nausea, and vomiting, but received symptomatic treatments. On March 2021, the patient vomited twice (watery gastric contents) and experienced aggravated abdominal pain, accompanied by abdominal distension, fatigue, dizziness with weight loss of about 8 kg. During the patient's surgery, approximately 90 cm of jejunum and 80 cm of ileum were removed, along with the ileocecal valve. The patient's total bowel length is 210 cm.

The surgery lasted 9 hours and the patient was extubated 7 hours after the surgery. He was transferred to the gastrosurgery clinic on postoperative day 1. A nasogastric tube was inserted in the patient for decompression purposes and intravenous fluid support was continued. On the 3rd postoperative day, liquid diet was started, but due to distension and cramp-like pain, oral intake was stopped and total parenteral nutrition was started. The liquid diet was restarted on the 5th postoperative day, and the enteral and protein-based diet was continued as long as the patient tolerated it. Nasogastric tube was removed on the 7th postoperative day.

In 3rd postoperative day Body temperature: 38.4°C, Heart rate: 122/min, Respiratory rate: 24/min, Arterial blood pressure: 105/53 mmHg, SpO₂: 86%. Physical examination revealed tachypnea and rales in lung sounds. A chest x-ray was taken and a high-resonance lung tomography was performed. In the examinations, atelectasis and pulmonary embolism were determined and started treatment. The patient's physician request is as follows.

Piperacillin/Tazobactam® vial 4.5 mg 3x1 intravenous, Enoxaparin sodium 0.6 ml 2x1 subcutaneous injection, olchlnomel® n4-550e infusion electrolyte amino acid solution, glucose solution, lipid emulsion 1500 ml 1x1 intravenous, acetylcysteine 300 mg/3 mL 3x1 intravenous, pantoprazol 20 mg 1x1, prosure® enteral nutritional supplement 3x1 per oral ordered by the physician.

In the physical examination of the patient on the 10th day of hospitalization, lung sounds returned to normal and infiltration decreased significantly in the control chest radiograph. At the same time, there is no need for nasal oxygen. Vital signs are within normal limits. The patient's bowel sounds are 11/min, and soft stool is passed once a day. Due to the patient's lack of appetite and consuming half of the meals, he consumes less than his daily calorie needs. For this reason, it is planned to continue enteral nutrition supplements during the home care process after discharge.

Evaluation of the Case According to Functional Health Patterns is given in Table 1.

CONCLUSION

Nursing diagnosis and care are very important in the close follow-up of the patient after surgery, in the management of the patient's nutrition, metabolic status, fluid electrolyte balance and anesthesia-related complications. In patients with short bowel syndrome, medical nutrition therapy should be started in line with the patient's needs, taking into account factors such as resection site and bowel length. However, nutritional recommendations should be individualized for each patient and evaluated within the context of daily life. The patient's gastrointestinal anatomy, disease process, and eating habits should all be taken into account. Although there are studies showing that intestinal adaptation improves with nutritional interventions in short bowel syndrome, human studies are insufficient and more studies are needed. In order for intestinal adaptation to occur, patients should be regularly followed by a specialized dietitian, frequent dietary guidance should be provided, and patients should be monitored at regular intervals.

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