Post-print: Nursing Care of a Patient with Esophageal Varices Undergoing Endoscopic Variceal Ligation

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Abstract

This article summarizes the nursing experience of one case of endoscopic esophageal variceal ligation for a patient with esophageal varices, including targeted nursing measures such as preoperative psychological care, instrument preparation, patient preparation, intraoperative care, postoperative general care, and complication management. Adequate preoperative preparation, close surgical cooperation, and meticulous postoperative care are key to ensuring the success of esophageal variceal ligation, helping to alleviate patient pain, improve patient symptoms, and promote recovery.

Full Text

Nursing Care for a Patient with Esophageal Varices Treated by Endoscopic Variceal Ligation

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Abstract

This paper summarizes the nursing experience in managing a patient with esophageal varices who underwent endoscopic variceal ligation (EVL), including targeted nursing interventions such as preoperative psychological care, instrument preparation, patient preparation, intraoperative care, postoperative general care, and complication management. Comprehensive preoperative preparation, close surgical cooperation, and meticulous postoperative care are critical to ensuring the success of EVL, helping to alleviate patient pain, improve symptoms, and promote recovery.

Keywords: esophageal varices; endoscopic variceal ligation; hemorrhage; complications

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Case Presentation

A male patient was admitted with a diagnosis of advanced cirrhosis complicated by severe esophageal varices, classified endoscopically as grade 3, with a history of hematemesis and melena. Initial management included fasting, nutritional support, anti-infection therapy, and ascites drainage. On day [unspecified], the patient reported persistent abdominal distension and pain, with recurrent hematemesis and melena; hemoglobin was [value] g/L. Blood transfusion and thrombin infusion were administered per physician orders, but symptoms remained unrelieved. Endoscopic variceal ligation was subsequently performed on [date] using a six-band ligator.

1. Clinical Procedure

The endoscopic procedure was performed as follows: The endoscopist advanced the gastroscope to evaluate the degree of esophageal varices and identify any active bleeding. After withdrawing the scope, the nurse assisted in mounting the ligation device. The gastroscope with the attached transparent cap containing ligation bands was reinserted near the esophageal squamocolumnar junction. Target varices were identified and subjected to continuous negative pressure suction into the transparent cap. When the varix filled the cap and the visual field turned red, the handle was rotated to release the band, which ligated the varix into a tight, spherical configuration. This process was repeated in a spiral pattern from the cardia toward the incisors, ligating multiple variceal sites. The procedure was completed successfully, achieving hemostasis at bleeding sites. Postoperatively, the patient reported significant symptom improvement, with no further hematemesis or melena, reduced abdominal distension and pain, and stable hemoglobin levels. The patient was discharged in stable condition.

2. Nursing Care

2.1 Psychological Care Esophageal variceal bleeding (EVB) is a common cause of acute upper gastrointestinal hemorrhage, characterized by prolonged course, recurrent episodes, rapid progression, and high mortality, posing serious threats to patient safety. Preoperative nursing included educating the patient and family about the principles of EVL, emphasizing its safety and efficacy, and explaining that active cooperation could reduce pain, shorten hospitalization, and decrease economic burden. Nurses patiently instructed patients on procedural cooperation techniques and postoperative precautions, while teaching deep breathing exercises (nasal inhalation, oral exhalation) to promote relaxation.

2.2 Instrument Preparation Equipment included a Fujifilm electronic therapeutic gastroscope. All functions were verified: air and water delivery, suction buttons, foot pedal positioning, and electrical connections. The six-band ligator (COOK MBL-6-F, two sets on standby) was checked for proper attachment to the gastroscope. Ancillary instruments included injection needles, hemostatic clips, and emergency supplies (simple breathing bag, hemostatic drugs, etc.). Two high-performance suction units were prepared—one for oropharyngeal suction to maintain airway patency, and one for endoscopic suction. A cardiac monitor and suction apparatus were connected and tested. Suction strength was adjusted preoperatively to achieve adequate negative pressure, typically verified by the ability to suction a rubber glove into the transparent cap.

2.3 Patient Preparation Preoperative laboratory tests included complete blood count, coagulation profile, and liver and renal function panels. The patient was fasted for [unspecified] hours. Thirty minutes before the procedure, simethicone powder was administered orally to eliminate foam and ensure clear endoscopic visualization. Ten minutes prior, dyclonine mucilage was given for oral anesthesia. Dentures were removed, collars loosened, and the patient positioned in left lateral decubitus with head slightly elevated to align the esophagus with the pharynx. A bite block was inserted, and intravenous access was established with continuous cardiac and pulse oximetry monitoring.

2.4 Intraoperative Care During the procedure, the patient was monitored for blood pressure, heart rate, oxygen saturation, and mental status. Nurses provided continuous psychological support, holding the patient's hand and offering reassurance. When nausea intensified, brief rest periods were allowed between banding sequences. Oropharyngeal secretions were cleared promptly to prevent aspiration. The intravenous line was maintained, and any abnormalities were immediately reported to the physician. Active bleeding was managed through coordinated interventions including local drug spraying, injection therapy, or hemostatic clip application.

2.5 Postoperative General Care Following the procedure, the bite block was removed and vital signs were monitored until stable. The patient was trans-

ported to the ward via stretcher and placed on absolute bed rest in a quiet environment. Cardiac monitoring was maintained for [unspecified] hours. Somatostatin, acid suppressants, and prophylactic antibiotics were administered. Nurses monitored for chest pain, hematemesis, and stool characteristics while emphasizing the importance of fasting. Oral care was provided regularly. Dietary progression began with small amounts of cool liquid food on day [unspecified], advancing to semi-solid foods after [unspecified] days, avoiding rough or sharp foods. Some patients experienced postoperative retrosternal pain, which typically resolved spontaneously within [unspecified] days; severe pain was managed with analgesics as ordered. Patients were advised to avoid vigorous coughing, straining during defecation, and to maintain adequate rest. The period of [unspecified] days post-procedure represents the scab formation and detachment phase, during which strict avoidance of adverse physical and chemical stimuli is essential to prevent rebleeding.

2.6 Complication Prevention and Management Nursing interventions focused on preventing complications through vigilant monitoring, strict dietary management, and patient education. Any signs of bleeding prompted immediate notification of the medical team.

3. Discussion

Effective prevention and treatment of EVB is the most important measure for reducing mortality in cirrhotic patients. EVL is a mature technique with significant efficacy in managing EVB. However, patients often experience anxiety and fear due to insufficient understanding of the disease and treatment, which can hinder therapeutic efforts. Preoperative psychological support and education are essential to reduce psychological burden and improve cooperation. Comprehensive instrument preparation and emergency readiness ensure procedural success. Intraoperative coordination between nurses and physicians, combined with continuous patient reassurance and monitoring, guarantees safety. Postoperative intensive monitoring, strict dietary management, and health education prevent and reduce complications. Scientific nursing coordination and detailed interventions at every stage are key to successful EVL treatment.

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Conflict of Interest Statement: The authors declare no conflicts of interest.

Note: Figure translations are in progress. See original paper for figures.