



Palliative Surgery in General Surgery Clinics

Genel Cerrahi Kliniklerinde Palyatif Cerrahi

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My dear readers,

In this issue, I will talk about palliative surgery, which is a problem in general surgery clinics and is difficult for both patients and their relatives, as well as physicians.

Palliative surgery is defined as “surgery performed to provide symptom control and improve quality of life in patients in whom there is no curative surgery option”. While curative surgery refers to the complete removal of diseased tissues, even microscopically, especially in patients with cancer, the aim of palliative surgery is to eliminate symptoms (1).

In the past, surgery was avoided in elderly patients with poor general condition and low life expectancy. Today’s medical advances have made it possible to perform surgeries safely in these patient groups. The view that the treatment came to an end in patients with no life expectancy was reconsidered with the updates in the definition of palliative care, and the view that treatments, interventional methods and palliative surgery applications to increase the quality of life should widely used became widespread.

In palliative surgery, it is aimed to increase the quality of life of the patient with a wide range of interventions including debulking in large tumors, creating ostomy, ablation and stent placement in occlusions. The method to be chosen is closely related to the clinical experience of the surgeon. When making the decision for palliative surgery, many factors such as the histopathological structure of the cancer or mass, its extent, the age of the patient and the estimated survival time, the severity of the symptoms and their effects on the patient, and the preference of the patient and their relatives are evaluated (2).

Although there is a large group of patients who need palliative care, in this article, I will mainly talk about palliative surgery to be applied to patients with cancer. Palliative surgery in patients with cancer is performed to relieve or remove an obstruction in the digestive tract caused by the tumor, to relieve pain by interrupting the transmission of pain signals, to puncture or shunt to correct acid-related symptoms, to prevent weakened bone fractures or to detect fractures (1). In addition, interventions for perforations, obstructions, passage problems, fistulas and bleedings are also within this scope. Palliative surgery is also applied in enteral nutrition and pain control. The devoted work of an experienced surgeon, oncologist, radiologist, interventional radiologist, anesthesiologist, intensive care doctor, gastroenterologist, neurologist, infectious diseases specialist, clinical dietitian, nurse, anesthesia technician and health personnel in the palliative surgery team is important. The right decision and successful result can be achieved by the team’s harmonious and cooperative work (3).

Clinical, laboratory, imaging, endoscopy and laparoscopy findings are evaluated in detail before palliative surgery. If there is a tumor that can be removed in the local control of the disease, it is removed, feeding tubes are placed, ostomy is created. Endoscopy is used or interventional radiologist is consulted to stop bleeding. In pain control, interventions such as removal of the mass causing pressure and pain, sympathectomy and injection into the nerves can be performed. The surgical procedure usually includes resection, reconstruction, functional repair, drainage or biopsy. Although different rates were reported, it was reported in a study that 12.5% of all surgical interventions were palliative surgeries (4). In a study conducted in a cancer center, 40% of all surgical

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consultations were made for palliative surgical evaluation, and 43% of palliative patients underwent surgery and 17% of them underwent other procedures (5). In another study, it was reported that while palliative surgeries constituted 13% of all surgeries, they constituted 21% of all cancer surgeries (6). When palliative surgery was performed in the general surgery clinic, the mortality rate was found to be 24.5%. The average hospital stay was 12.4 days (0-99 days). The 30-day mortality rate was found to be 12.2% (3).

No surgical intervention is risk-free. Due to the high morbidity and mortality rates, the risk is even higher in palliative surgery. The most difficult stage in palliative surgery is the decision of surgery or intervention. While making this decision, the surgeon's dilemma is frequently experienced by the patient and their relatives. When patients are told about the complications and risks of surgery, 15.7% found the intervention risky (6). Surgical intervention for palliation is inevitable and often requires urgent intervention when the patient develops life-threatening bleeding, perforation, intestinal or biliary tract obstruction. Even for palliative purposes, surgical methods such as organ resection, amputation, bypass, ostomy creation, and drainage may be mandatory (3).

Palliative surgery indications in general surgery in end-stage patients include malignant intestinal obstruction, acute abdomen, bowel perforation, debridement, abscess drainage, gastric outlet obstruction, wound/fistula-related discharge, biliary tract obstruction, malignant acid, and tumor-related bleeding. I would like to briefly mention some of them.

Malignant Bowel Obstructions and Ileus

Intestinal obstruction due to malignancy and ileus are the most common indications in palliative surgery. Intestinal obstructions are most common in ovarian and colorectal cancers, but may also occur with other abdominal and non-abdominal malignancies. Intestinal obstruction due to malignancy may be due to tumor, treatment, adhesions or benign causes such as internal hernia. The fastest, safest and most effective procedure should be preferred in removing the blockage. Obstructions that cannot be relieved by conservative treatments such as nasogastric decompression, hydration and discontinuation of oral intake should be considered as evidence of complete obstruction and surgery should be planned. Surgery may not be performed in 6.2% to 50% of patients due to operative risk or surgical contraindications (7).

Poor prognostic indicators of the patient include ascites, carcinomatosis, palpable intra-abdominal masses, multiple bowel obstructions, previous bowel obstructions, general poor performance, and presence of very advanced disease. Intestinal obstruction is an indication of recurrence in some patients and progression of the disease in some patients. While tumor on the peritoneal surface may cause edema or adhesion, damage to autonomic nerve plexuses as a result of tumor infiltration of

the mesentery may cause adhesion, radiation fibrosis, metabolic disorder, sepsis and ileus. Pancreatic carcinomas can cause stomach stasis. In case of complete obstruction, there is no gas and stool discharge. Patients should be hospitalized and nutritional and hydration support should be provided. Medical treatments and minimally invasive interventions are required. Stenting, surgical resection and creation of ostomies for decompression can be applied.

Acute Abdomen

All of the pathologies characterized by sudden onset of abdominal pain, the signs and symptoms of which are concentrated in the abdomen, and develop due to non-traumatic causes are grouped under the heading of "acute abdomen". Acute abdomen is examined under three main headings as surgical pathologies, medical pathologies and extra-abdominal pathologies. Acute abdomen can occur for many reasons such as acute appendicitis, gallstones, small bowel obstruction, ureteral stones, gastritis, peptic ulcer perforation, gastroenteritis, acute pancreatitis, diverticulitis, obstetric and gynecological diseases(1). Gastrointestinal obstruction and perforation, abscess, peritonitis, fistula-related infections and, more rarely, bleeding are seen as life-threatening acute abdominal pathologies in patients with advanced cancer. In these patients, tumor-related acute abdomen may occur, as well as bleeding and intestinal perforations due to anti-angiogenic agents used in the treatment (4). The cause of acute abdomen is very important in planning surgical intervention. For this reason, the cause should be determined first and the surgical decision should be made with multidisciplinary consultations. All possible risks of the acute abdomen and the intervention to be performed should be shared with the patient and their relatives.

Perforation

Biochemical or functional ileus should be considered in the absence of colic abdominal pain with acute abdominal symptoms. Persistent pain may be directly related to the tumor. Intestinal perforation should be considered if there are signs of abdominal distention or peritonitis. While perforation of primary gastrointestinal tumors is common, it is less common in metastatic diseases of the abdominal or pelvic cavity. Perforations occur in the small intestine, colon, and stomach, respectively. The prognosis is worse in metastatic patients. **Typhilitis** (neutropenic enterocolitis), a syndrome involving intestinal inflammation, edema, and thinning of the proximal large bowel wall encountered in patients with neutropenia and receiving chemotherapy and, is a condition with high mortality. Constipation is common in palliative care patients. Intestinal perforation may also develop in stercoral ulcers resulting from this.

The aim of the surgery in end-stage patients is to alleviate the pain caused by intestinal perforation, to eliminate sepsis, and to control the perforated area in order to continue oral nutrition.. Instead of having a curative purpose in emergency intervention,

it should be preferred to perform surgery that will provide the patient's comfort quickly, eliminate life-threatening factors, and require less intervention such as ostomy. Studies indicate that surgical intervention may be preferred in patients with young age and normal albumin levels (8).

Debridement

Debridement is the process of removing necrotic tissue from the area with ulcer to reduce infection and inflammation, provide odor control, and increase patient comfort. Autolytic, mechanical, enzymatic, biological and surgical debridements can be performed. The risk of infection is effective in determining the surgical method to be chosen in these patients.

The immune system is weakened in palliative care patients mostly due to primary disease and nutritional deficiencies. The patient needs supportive treatments to fight the infection. The risk of infection is also a determinant in planned palliative surgical procedures. If possible, minimally invasive methods with the least risk of infection should be preferred. For example, in a study on malignant bowel obstruction surgeries, it was found that surgical site infections were less common in laparoscopic surgeries compared to open surgeries (4% versus 32%) (5).

Pressure sores are one of the most common problems in palliative care, plaguing both patients and healthcare professionals. In addition, extravasation of chemotherapeutic drugs during administration may cause tissue irritation, ulceration, necrosis, nerve damage and, rarely, problems that can progress to extremity loss.

Minimally Invasive Procedures

Surgical interventions should be as simple as possible, risky and major surgeries should be avoided. Because each intervention may cause complications that disrupt the patient's comfort of life. The procedures to be applied should be discussed with the patient and their relatives, and the decision should be made together. The patients and their relatives should know that the interventions are not for prolonging life or curative purposes, they should understand the possible complications, and the procedures they do not approve should not be performed. At this stage, it should be aimed to ensure the comfort of the patient with the simplest possible procedures, and minimally invasive interventions for palliative purposes should be preferred before surgery. In tumors that cannot be removed, endoluminal laser ablation, radiofrequency ablation, and embolization should be performed. Shunts should be applied in acid deposits in the abdomen. Excessive amount of acid formation in the abdomen affects the mobilization of the patient and may also cause abdominal compartment syndrome and inferior vena cava syndrome. In patients in whom medical treatment is insufficient, interventional procedures may be required. In the treatment, a sequence should be followed systematically, and if unsuccessful, the next stage should be tried. The least invasive method possible should be chosen to solve the problems of the patients. For

malignant intestinal obstruction, endoscopic procedures may be preferred, especially in those with low life expectancy. The success of metallic stents is higher than the success of latex and silicone drains. Because the risk of migration, perforation and occlusion is lower in metallic stents. Duodenum and colon may be suitable for stenting, but jejunum and ileum are not suitable for stenting (3). Patients should be informed that endoscopic procedures may need to be repeated (5). The primary physician of the patient should strive to improve the quality of life as much as he or she values vital parameters.

In order to ensure a peaceful and beautiful death when it is inevitable, multidisciplinary teamwork should be done and communication with the patient and their relatives should be maintained at every step (3).

The morbidity in palliative surgery ranges from 25% to 40%. When it comes to symptom control, 80-90% of patients achieve good symptom relief. It has been reported that symptom reduction is achieved at a high rate in patients with breast cancer and sarcoma, and at a moderate rate in patients with hepatobiliary cancer (9). Since the patient may lose the ability to make decisions for a while after palliative surgery, it is important to clarify the desired outcome from the patient's point of view before the surgery, the treatments that patients want to endure to achieve these results, and the results that they will find unacceptable after surgery, such as being on a long-term ventilator (10). The decision to continue palliative care and at which stage to perform palliative surgery should be made with a multidisciplinary approach and consensus, including the relatives of the patient. Rather than the priorities of the physician, the expectations and priorities of the patients and their relatives should be determined and a road map should be drawn accordingly.

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