

SURGICAL TECHNIQUES IN ESOPHAGEAL CANCER



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Esophageal cancer constitutes 1% of all cancers and ranks seventh among cancer-related deaths [1]. The prognosis is poor in this disease and approximately half of the cases are detected in the inoperable stage. Overall, 5-year survival is less than 20% [2].

When the clinical spectrum of esophageal cancer is examined, we see that the incidence of adenocarcinoma has increased significantly in the United States and Europe in the last few decades. In our country, squamous cell carcinoma is common and constitutes approximately 90% of cases [1, 3]. Surgery is still used as a standard treatment for early esophageal cancer. The histopathological type does not affect the surgical approach [1, 3].

Esophageal cancer can metastasize to all organs, especially the liver and lung. The esophagus has rich lymphatic drainage routes. The prolonged progression of the tumor without symptoms causes high lymph node metastasis. Regional disease expressing regional lymph node involvement is seen in 30% of patients with esophageal cancer. The main goal of surgery is to achieve a curative result and is the main element of multidisciplinary treatment in patients with localized disease [4, 5].

ANATOMY

The esophagus is a 25 cm long structure located between the sixth cervical and eleventh thoracic vertebra levels in the posterior mediastinum. It consists of four parts: cervical, thoracic, lower thoracic/esophagogastric junction, and abdominal esophagus. Esophagus consists of mucosa, submucosa, muscularis externa, and adventitia layers. Unlike other gastrointestinal tract organs, there is no serosa layer in the esophagus. Lack of serosa is also effective in the early and rapid spread of esophageal cancer. The cricopharyngeal muscle, broncho-aortic region, and esophagogastric junction are the three major constriction areas of the esophagus. In adults, the distances of constrictions from the incisors are 12-15 cm, 24-26 cm, and 40-44 cm, respectively. These anatomical regions are the places where iatrogenic and mechanical perforations are most common [6, 7].

The arterial blood supply of the esophagus is provided from the inferior thyroid artery and subclavian artery in the cervical region, from the bronchial artery and aorta in the thoracic region, and the left gastric artery and inferior phrenic artery in the abdominal region. Venous drainage occurs in the inferior thyroid vein in the cervical esophagus, azygos, hemiazygos, or bronchial

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sure, arterial oxygen saturation, and urine output should be closely monitored. When pain is under control, extubation becomes faster. They cough up phlegm more easily. Thus, atelectasis is prevented. Prophylactic antibiotics, total parenteral nutrition is given. Low molecular weight heparin is given for deep vein thrombosis prophylaxis. We continue to use low molecular weight heparin for a week and do not remove the compression stockings until the patient is mobilized. Irrigation should be performed every four hours to prevent clogging of the nasogastric tube and jejunostomy tube if any. The patient should be in a position of about 45 degrees per bed. H2 receptor blockers or proton pump inhibitors should be given to prevent reflux [70, 71].

In the centers dealing with esophageal cancer surgery, usually, enteral treatment is started after 48-72 hours postoperatively. In the seventh postoperative day, barium imaging is performed in some centers to evaluate conduit emptying and any leakage. The nasogastric tube is usually left in place until a barium x-ray is taken. We do not routinely use barium imaging in our clinic. All our patients take oral methylene blue more easily. If there are no signs of leakage, we remove the nasogastric tube and switch to a normal liquid diet. Many cardiovascular and pulmonary complications can be seen after esophagectomy. Precautions should be taken against these complications.

CONCLUSION:

Today, radical treatment of esophageal cancer is possible surgically. With the advances in technology and surgical techniques, 5-year survival has increased to 50% today. The age of the patient, presence of comorbidity, localization, and size of the tumor, pulmonary capacity, and the surgeon's experience are the factors that determine the type of surgery to be performed.

The Take-Home Messages

1. What kind of evaluations should be made before surgery in esophageal cancer?

2. In which situations is transhiatal esophagectomy preferred?
3. In which cases may transthoracic esophago-gastric anastomosis be applied?
4. Which surgical methods can be applied in gastroesophageal junction tumors?
5. What advantages and disadvantages does anastomosis performed in the cervical region have compared to the intrathoracic region anastomosis?

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