

Surgical treatment of esophageal cancer after subtotal gastrectomy

Pan Xue¹, Li Xiang-nan²

¹The Nursing College of Zhengzhou University, Zhengzhou, Henan 450052, China.

²The First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan 450052, China.

lxn-2000@163.com

Abstract: OBJECTIVE: To reconstruct the digestive tract using the remaining stomach and part of the colon for the esophageal cancer after subtotal gastrectomy to investigate the surgical treatment and long-term survival. **METHODS:** 20 patients presenting with esophageal carcinoma after gastrectomy were analyzed retrospectively. Left postero-lateral thoracotomy incision was used in patients with esophageal cancer in the middle but not close to aortic arch and patients with lower thoracic segment. The digestive tract was reconstructed by the remaining stomach. Right postero-lateral thoracotomy, upper abdominal and left neck incisions were used in patients with upper thoracic segment lesions and esophageal cancer in the middle but close to aortic arch. Transverse and descending colon were used for the digestive tract reconstruction. **RESULTS:** All cases had successful operation and no serious postoperative complications, no death. **CONCLUSIONS:** Residual stomach and colon can be used for reconstruction of digestive tract, the key lies in the choice of appropriate surgical methods for different patients. [Life Science Journal 2010;7(2):67-68]. (ISSN: 1097-8135).

Key words: subtotal gastrectomy; esophageal cancer

Introduction

Surgery is still the first choice for the esophageal cancer after subtotal gastrectomy, but how to rebuild the digestive tract is very important. In our department, 20 patients presenting with esophageal carcinoma after gastrectomy between 2002 and 2008 were analyzed retrospectively. We reconstruct the digestive tract using the the remaining stomach and part of the colon to investigate the surgical treatment and long-term survival .

Clinical data:

This study included a total of 20 patients, male 15 cases and female 5 cases, the average age of 60 (52 to 76) years old, the incidence of gastric ulcer in 16 cases, four cases can not clear the history of the disease. Preoperative gastroscopy confirmed that subtotal gastrectomy with the stomach being reconstructed in a Billroth-II fashion. The interval between gastrectomy and the diagnosis of esophageal carcinoma ranged from 8 to 18 years. Among them, there are ten cases of esophageal cancer at the middle part of esophagus, six cases at the lower part of esophagus, four cases at the upper part of esophagus. All cases were confirmed by both the upper gastrointestinal imaging and fiber gastroscopy. Pathological results is squamous cell carcinoma.

Methods:

Among these 20 cases, left postero-lateral thoracotomy incision was used in six patients with esophageal cancer in the middle but not close to aortic arch and six with lower thoracic segment. The procedure involved surgical exploration of the tumor, whether it can be removed and then abdominal exploration. Include free and ligation of left gastric artery, protecting left gastroepiploic artery and short gastric artery for blood supply of residual stomach, transplanting the remaining stomach with spleen and caudal portion of pancreas into the left thorax and

reconstruct the digestive tract using the the remaining stomach. In two patients, Billroth II reconstruction was changed to Roux-Y fashion just because of remnant terminal of duodenum is too short to make esophageal-residual stomach anastomosis. The other cases, four had upper thoracic segment lesions and six patients with esophageal cancer in the middle but close to aortic arch, which were resected and reconstructed by transverse and descending colon transplantation into the neck. Right postero-lateral thoracotomy, upper abdominal and left neck incisions were used. The procedure involved right postero-lateral thoracotomy incision, surgical exploration of the tumor, whether it can be removed; upper abdominal incisions, surgical exploration of abdominal adhesions, the original operation and whether colonic vascular anomalies, careful protecting the colon and relevant left colic artery branches; left neck incisions, tumor resection, making esophageal-colon anastomosis after sternum.

Results:

All cases had successful operation and no serious postoperative complications, no death. 16 cases were at follow-up examination and four cases out of touch. 1-year survival rate was 16/16, 3-year Survival rate was 10 / 16, 5-year survival rate was 4 / 10 cases.

Discussion:

The incidence of esophageal carcinoma after gastrectomy is relatively low. If the tumor is resectable, surgery is the first choice. The difficulty that faces us is replacement organs to reconstruct digestive tract, the material selected should be long enough and reliable blood supply to ensure no anastomotic leakage. Traditional methods of surgery treatment are to reconstruct the digestive tract using colon and the jejunum with vascular pedicle. Some others use the residual stomach. We believe that all methods are feasible. The key is ① Rigorous

preoperative examination as upper gastrointestinal radiography, gastroscopy inspection and CT scan. They are useful to know the surgery way of subtotal gastrectomy and the size of the residual stomach. ②We determined whether residual stomach is long enough to reconstruct the digestive tract with tumor location and height of the patient. ③All patients are with gastrointestinal preparations. In one word, sufficient preoperative preparation, careful operation and intensive postoperative care necessary.

Our experience has shown that the reconstruction of digestive tract using the residual stomach should be preferred when esophageal cancer are located in the middle and lower thoracic segment and the anastomosis will be inferior to the arch of aorta. Lesions were removed through left thoracotomy, spleen and pancreatic tail were dissected and transposed into thorax. The advantages of this method include ① the surgical procedure is simple: one incision and one anastomosis ②short operative time and faster recovery. Whether the residual stomach has reliable blood supply and enough length is the key. Right gastroepiploic artery and right gastric artery were ligated in subtotal gastrectomy. Blood supply of the residual stomach relied on left gastro-epiploic artery, short gastric arteries and left gastric artery. When residual stomach was fully mobilized for anastomosis with the esophagus, short gastric artery and left gastro-epiploic artery were just reserved. Our Experience has proven that these two arteries will be available for the residual stomach and esophageal-residual stomach anastomosis will be not affected. Billroth II reconstruction should be changed to Roux-Y fashion when remnant terminal of duodenum is too short to make esophageal-residual stomach anastomosis. Spleen and caudal portion of pancreas will be fixed in the left thorax, so as to avoid anastomotic tension by gravity, but it is also a related impact for breathing disorders.

The reconstruction of digestive tract using transverse and descending colon should be preferred in patients with carcinoma at the upper part of esophagus or middle part of esophagus but close to aortic arch. Right postero-lateral thoracotomy, upper abdominal and left neck incisions were used. Our experience has

shown ① no anastomosis in the chest, little influence of heart and lung, little postoperative complications. ② transverse and descending colon is long enough to alleviate tension of anastomosis. Low anastomotic leak rate ③ gastroesophageal reflux, choking and aspiration pneumonia decrease because of peristalsis of colon. On the other hand, weak points are three incision, the relatively long time and more invasive procedure.

In short, residual stomach and colon can be used for reconstruction of digestive tract, the key lies in the choice of appropriate surgical methods for different patients.

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