Palliative Endoscopic Therapy for Cancer Patients with Esophageal Fistula

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ABSTRACT

Objective: To find an effective treatment for advanced cancer patients with esophageal fistula. **Methods**: From 1998 to 2006, we studied 42 patients with advanced esophageal cancer and 5 lung cancer patients with carcinomatous esophageal fistula (3 females, 44 males, aged 29–92 years). Ten patients with both esophageal cancer stricture and fistula were first dilated under endoscope, then a memory stent with a membrane was placed in the esophageal lumen. Others were treated only with a memory stent with a membrane, three of them with a large fistula (diameter >1.5 cm) were treated with bio-protein glue after placement of an esophageal metal stent. **Results**: The fistulas were covered by a stent and the patients could eat and drink immediately. Their quality of life was improved and their survival was prolonged, 44 out of 47 patients survived for >3 mo. **Conclusion**: Placement of esophageal stent with membrane or in combination with bio-protein glue through endoscope is an effective method for treating the bronchoesophageal fistula.

Key words: **Esophageal fistula; Endoscopic treatment; Palliative treatment**

The patients suffering from esophageal cancer and lung cancer with carcinomatous fistula, could not take in any water and foods, their quality of life was very poor. When the fistula is so serious that they have a high fever. Their life is threatened. Esophageal dilatation and placement of the memory stent are carried out for them, in addition the patients with large fistula are treated with bio-protein glue after placement of an esophageal metal stent.

The effective results a obtained and the life of the patients can be prolonged[1]. The operative stages and the treatment results were reported here.

MATERIALS AND METHODS

Materials

A total of 47 cases with esophageal carcinomatous fistula were treated during 1998-2006, in whom, there were 42 cases of esophageal cancer, 5 cases of lung cancer, 3 female cases, and 44 male cases, aged from 29 to 92 years. The instruments included the video gastro endoscope GIF 130 from Olympus Japan, the dilators 0.6–1.4 cm decimator from Cook USA, the system for color image of computer from China, the memory stent and placement system from China.

Methods

First, x-ray examination of esophageal fistula with water soluble reagent was done, to examine the range of fistula, and then dilation was carried out with Sha's dilators from 0.7 to 1.2 cm. After dilation, the range of esophageal stricture and fistula was closed by stent. It is suggested that the edge of the stent should be above and below fistula more than 2–4 cm, the placement instruments were put into the distal end of fistula more than 2 cm. If

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the position of stent was not satisfied, stent was adjusted by clip or stent was take out by clip, and then was placed again to obtain a satisfactory position. When the stent was placed, a little hot 0.9% saline solution was injected so that the stent would be expanded successfully. If the close of fistula was not satisfactory, the bio-protein glue was injected so that the fistula was closed completely. 5 cases suffering from lung cancer with fistula were treated by placement of stent. 29 cases suffered from esophageal cancer with fistula were treated by placement of stent only, 10 cases with serious stricture were treated by dilation and stent placement, and 3 cases with large fistula were treated by stent placement and the bio-protein glue among 42 cases suffering from advanced esophageal cancer. The treatment was carried out in the center of endoscope under endoscope. The patients were in conscious state without anesthesia, they were not monitored by x-ray. It was different from intervention under x-ray[1–4].

The endoscopic treatment complications were evaluated by perforation, hemorrhage, and pain. If hemorrhage was more than 50 ml, it was determined hemorrhage, if the pain could be tolerated without taking anodyne, it was determined mild pain, if not it was moderate pain or serious pain.

RESULTS

Most of the patients lived more than 3 mo, with esophageal stent, who could have food and water, a few of them could have normal food. A few of them before treatment had a high fever, they had normal temperature after treatment by antibiotics. A few of them lived more than 1 y, one of them lived more than 2 y. One of the lung cancer patients who was treated by placing esophageal stent for two times, lived only 2 mo. One case of esophageal carcinoma fistula, who could not have anything and lived almost two m after placing esophageal stent and bio-protein glue, because location of the fistula was too high (18 cm away from fore-tooth) (Tab. 1). Three cases were placed stent with bio-protein glue. Most of the patients were dilated before placing stent, a few of them were placed stent without dilation because the stricture of esophagus was not too serious. One of them was placed a wide diameter stent because there was only esophageal fistula but not the stricture. The wide diameter stent was ordered only for him, avoiding stent moving. There were no serious complications such as perforations and hemorrhage during dilation and placement of stent, 80% of the patients felt slight pain at post sternum, only 20% of them should take anodyne (Tab. 2).

Tab. 1. Survival period of the patients after placing esophageal stent for treating fistula

	<3 m	>3 m	>1 y
Esophageal cancer	2/42 (5%)	40/42 (95%)	3/42 (7%)
Lung cancer	1/5 (20%)	4/5 (80%)	1/5 (20%)

Tab. 2. The complications after endoscopic treatment for esophageal fistula

	Perforation	Hemorrhage	Mild pain	Moderate pain	Serious pain
Dilation and stent (18 cases)	0	0	9/18 (50%)	4/18 (20%)	2/18 (10%)
Stent only (29 cases)	0	0	9/29 (30%)	3/29 (10%)	1/29 (3%)

DISCUSSION

In terms of hemorrhage rate, there was no difference between esophageal carcinomatous fistula and esophageal carcinomatous stricture patients who were dilated and placed esophageal stent. Hemorrhage often occurs due to existing infection complicating esophageal stricture. There was high hemorrhage rate in fistula with stricture than only with stricture, but the standard of 10 ml before was very rigid, if standard was set at more than 50 ml, there was no hemorrhage[1, 5]. Therefore the hemorrhage rate was less than 3%–5% which were reported by other authors. There was no complication