

Circulatory Mediastinal Vacuum Drainage Therapy and Endoscopic Biomedical Fibrin Glue Occlusion: Two Individualized Methods for Anastomotic Leakage after Esophageal Resection

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ABSTRACT

Background. Anastomotic leakage after esophageal resection is a severe complication associated with many other complications and could result in death. But present treatments for anastomotic leakage are limited and less effective. **Method.** Between January 2008 and October 2014, we treated 9 patients with anastomotic leakage in Fudan University Shanghai Cancer Center (group 1) and 7 anastomotic leakage patients in Ruijin Hospital (group 2). To encourage necrotic tissue drainage and promote anastomosis healing, a circulatory mediastinal vacuum drainage therapy was invented and applied in FUSCC. In Ruijin Hospital, we implemented endoscopic biomedical fibrin glue occlusion to prevent inflammation from mediastinum spreading. **Results.** In group 1, circulatory mediastinal vacuum drainage therapy was effective in all 9 patients with anastomotic leakage. Among them, eight patients were healed without reoperation or any other complications by using this method. One patient died from acute aortic hemorrhage. In group 2, six of seven patients were healed and discharged, one patient died from respiratory failure. In group 1, anastomotic leakage occurred between 5th day and 14th day (median 11th day). The median days after surgery to circulatory mediastinal vacuum drainage was 13 days (range 8 to 33 days). Median length of stay after surgery was 47 days (range 17 to 77 days). In group 2, anastomotic leakage occurred between 2nd day and 20th day (median 10th day). The median days after surgery to occlusion was 49days (range 29 to 82days). Median length of stay was 88 days (range 63 to 144 days). **Conclusions.** Our study indicated that circulatory mediastinal vacuum drainage therapy is a feasible and effective treatment for patients with newly diagnosed anastomotic leakage, especially critical patients. Endoscopic biomedical fibrin glue occlusion could be applied safely in patients who came through acute phase and could accelerate their recovery. Thoracic surgeons could make an individualized choice between these two therapies based on their own experience and their patients' physical qualifications.

