

Does fibrin glue reduce lymph leakage (pleural effusion) after extended esophagectomy? Prospective randomized clinical trial.

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Abstract:

Fibrin glue has been shown to be effective in improving postoperative chylothorax following various thoracic procedures and in reducing lymphorrhea after axillary dissection. It is unknown, however, whether fibrin glue is effective in reducing lymph leakage (pleural effusion) after esophagectomy. A series of 43 consecutive patients with thoracic esophageal cancer who underwent extended esophagectomy were prospectively randomized to two groups: group A (n = 21), in whom 3 ml of fibrin glue was applied to the dissected mediastinum; and group B (n = 22), in whom fibrin glue was not applied. The time of drain removal and the volume of the thoracic drainage were compared. All data were expressed as the mean \pm standard deviation. There were no significant differences in the clinicopathologic characteristics between the two groups. None of the patients developed chylothorax or died during their hospital stay. The daily volume from the thoracic drain (457 \pm 273 ml) was significantly ($p < 0.05$) larger on postoperative day (POD) 1 in group A than in group B (298 \pm 158 ml) and tended to be larger ($p < 0.10$) on PODs 4 and 6 in group A than in group B. The cumulative drainage volume was significantly ($p < 0.05$) larger on PODs 4 to 6 and POD 9, and it tended to be larger ($p < 0.10$) on PODs 1, 3, 7, 8, 10, and 11 in group A than in group B, suggesting that the cumulative drainage volume in group A was consistently larger than that in group B. The cumulative numbers of patients with a drain remaining in place were not significantly different for the two groups ($p = 0.4683$). Three patients in group A, however, had prolonged insertion (> 20 days) of the chest tube. There were no significant differences in the incidence of postoperative chest-related

complications. No patients in group A developed viral infectious disease during the long-term follow-up. Application of fibrin glue to the dissected mediastinum seems to induce postoperative lymph leakage and thus be responsible for prolonged chest tube insertion in some patients. Hence the use of fibrin glue cannot be recommended for reducing lymph leakage after esophagectomy.