Effect of fibrin glue on air leak and length of hospital stay after pulmonary lobectomy.

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Abstract:

AIM: Air leaks are a common cause of morbidity and prolonged hospital stay after pulmonary lobectomy. We reviewed our experience with intraoperative fibrin glue to determine if it reduced air leak and improved patient outcomes.

METHODS: Records of patients undergoing pulmonary lobectomy for benign or malignant disease over a 4-year period (1998-2001) were reviewed. Data was collected on age, sex, pulmonary function, pulmonary pathology, use of fibrin glue, duration of chest tube drainage, length of hospital stay, and postoperative complications.

RESULTS: Three hundred and sixty patients underwent lobectomy. Fibrin glue was used intraoperatively to seal air leaks in 102 of the 360 patients (study group: 102;control group: 258). Fibrin glue was used at the discretion of the surgeon, with some surgeons using it routinely. The groups did not differ in age (p=0.29), sex (p=0.42), FEV1 (p=0.57), or pathology (p=0.08). There were no differences in outcomes such as operative mortality (study: 2 of 102, control 6 of 258, p=0.85), empyema (study: 0 of 102, control: 3 of 258, p=0.55), prolonged (>7 days) air leaks (study: 10 of 20; control: 20 of 258, p=0.71), or length of hospital stay (study: 6.3+/-2.5 days, control:7.7+/-7.2 days, p=0.83). The use of fibrin glue was associated with a reduction in the duration of chest tube intubation (study: 4.1+/-3.2 days, control: 5.5+/-3.8 days, p=0.001).

CONCLUSION: Patients treated intraoperatively with fibrin glue had a significantly shorter duration of chest tube intubation after pulmonary lobectomy than those treated conventionally. However, the use of fibrin glue did not significantly influence more clinically relevant outcomes such as length of hospital stay and incidence of prolonged (>7 days) air leaks.