

# **Autologous fibrin glue--preparation and clinical use in thoracic surgery.**

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## **Abstract:**

Autologous fibrin glue was used in 20 patients undergoing lung resection to reduce pulmonary air leaks and improve hemostasis. The fibrinogen in the glue was prepared by ethanol precipitation of plasma separated from 88 ml of the patient's blood. The mean volume of fibrinogen concentrate  $\pm$  SD was 4.9  $\pm$  0.5 ml with a fibrinogen concentration of 28  $\pm$  5 mg/ml. The yield obtained by the separation was 81%  $\pm$  9%. One part of fibrinogen concentrate was converted to solid fibrin by means of 0.3 parts of thrombin solution. The outcome was 6.4 ml of two-component fibrin glue. The preparation was performed in a closed system to ensure sterility, and was completed within 90 min. Pulmonary air leak decreased following sealing of the resection lines with autologous fibrin glue and the hemostasis was effective. No adverse effects were observed, and all cultures from the glue were negative. Autologous fibrin glue has the obvious advantages of safety from transmission of viral diseases and from immunological reactions. In summary, we report a new technique for preparing autologous fibrin glue with a high concentration of fibrinogen making it a safe and effective sealant of pulmonary air leak and hemostatic agent in thoracic surgery.