

# **Fibrin sealant for prevention of resection surface-related complications after liver resection: A randomized controlled trial.**

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## **Abstract:**

**OBJECTIVE:** To evaluate the efficacy of fibrin sealant in reducing resection surface-related complications in liver surgery. **BACKGROUND:** Bile leakage, bleeding, and abscess formation are major resection surface-related complications after liver resection. It is unclear whether application of fibrin sealant to the resection surface is effective in reducing these complications. **METHODS:** In a multicenter, randomized trial in 310 noncirrhotic patients undergoing liver resection, we compared prophylactic application of fibrin sealant to the resection surface (156 patients) with no application of fibrin sealant (154 patients). In addition to clinical assessments, patients underwent protocolized computerized tomography (CT) scan 1 week postoperatively. Primary endpoint was a composite of postoperative resection surface-related complications (bile leakage, bleeding, or abscess), as adjudicated by a clinical-events committee that was unaware of the study-group assignments. **RESULTS:** Overall rate of resection surface-related complications was not different between the 2 groups: 24% (38/156 patients) in the fibrin sealant group and 24% (37/154 patients) in the control group. Bile leakage was detected in 14% of patients in the fibrin sealant group and in 14% of controls. CT scans showed a fluid collection at the resection surface 100 mL or more in 28% of patients in the fibrin sealant group and in 26% of controls ( $P = 0.800$ ). The rate of reinterventions for resection surface-related complications (12% vs 10%;  $P = 0.492$ ) and severity of complications did also not differ between the 2 groups. **CONCLUSIONS:** This randomized multicenter trial shows that prophylactic application of fibrin sealant at the resection surface after liver resections does not lead

to a reduction in the incidence or severity of postoperative bile leakage or other resection surface-related complications (Controlled trial number, ISRCTN85205641). © 2012 Lippincott Williams & Wilkins, Inc.