A prospective study of the efficacy of clinical application of a new carrier-bound fibrin sealant after liver resection.

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Abstract:

Objective: To examine the effectiveness of fibrin sealants as supportive treatment to improve hemostasis and decrease the incidence of bile leakage and intra-abdominal collections. Design: Prospective, controlled, quasiexperimental study. Setting: Tertiary referral center, University Hospital Reina Sofia. Patients: A total of 115 patients (58 in the control group and 57 in the collagen sponge group) scheduled for conventional hepatectomies. Interventions: Patients were distributed into groups for major and minor hepatectomies with or without application of a carrier-bound collagen sponge on the raw surface of the liver. Main Outcome Measures: The main outcome measures were postoperative mortality, incidence and severity of postoperative surgical complications, and length of hospital stay. The secondary outcome measures were postoperative drainage output volume, transfusion requirements, and changes in biochemical parameters (hemoglobin, bilirubin, alanine aminotransferase, and platelet levels). Results: The fibrin sealant after major liver resection was effective for decreasing drainage volume (mean [SD] volume, 1124.7 [842.8] mL in the control group and 691.2 [499.5] mL in the collagen sponge group; P=.007) with a higher volume of output by drain each postoperative day in the control patients (P=.003); postoperative blood transfusion requirements (18.9% vs 7.0%, respectively; P=.04); moderate to severe postoperative complications (21% vs 8%, respectively; P=.03); and mean (SD) hospital stay (12.6[6.7] vs 9.6[5.1] days, respectively; P=.03). Conclusion: The use of a new carrier-bound collagen sponge after major liver resection may be recommended because of its clinical and cost-savings effectiveness. ©2010