

Systematic Review and Meta-Analysis of Haemostatic and Biliostatic Efficacy of Fibrin Sealants in Elective Liver Surgery.

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Abstract:

Background: Fibrin sealants are frequently used in liver surgery to achieve intraoperative haemostasis and reduce post-operative haemorrhage and bile leak. This meta-analysis aimed to review the haemostatic and biliostatic capacity of fibrin sealants in elective liver surgery. **Methods:** An electronic search was performed on the MEDLINE, Embase and PubMed databases using both subject headings and truncated word searches to identify all published articles that are related to this topic. Pooled risk ratios were calculated for categorical outcomes, and mean differences for secondary continuous outcomes, using the fixed-effects and random-effects models for meta-analysis. **Results:** Ten randomised controlled trials encompassing 1,225 patients were analysed to achieve a summated outcome. Pooled data analysis showed the use of fibrin sealants resulted in reduced time to haemostasis (mean difference -3.45 min [-3.78, -3.13] ($P < 0.00001$)) and increased numbers of patients with complete haemostasis (risk ratio 1.56, 95 % confidence interval 1.04-2.34, $p = 0.03$) when compared to controls. The use of fibrin sealants did not influence perioperative blood transfusion requirements, bile leak rates, post-operative haemorrhage, intra-abdominal collections and overall morbidity and mortality compared with controls. **Conclusions:** There is no solid evidence that the routine use of fibrin sealants reduces the incidence of post-operative haemorrhage or bile leak compared with other treatments. The use of fibrin sealants may reduce the time to haemostasis, but this does not translate to improved perioperative outcomes. © 2012 The Society for Surgery of the Alimentary Tract.