A randomized controlled trial comparing fibrin glue and PlasmaJet on the raw surface of the liver after hepatic resection.

Authors: Gugenheim J, Bredt LC, Iannelli A

Publication Date: 2011

Abstract:

BACKGROUND/AIMS: In order to reduce the rate of bleeding and bile leakage after hepatic resection, different operative techniques have been used such as selective suture, electrocautery, topical hemostatic agents, argon beam coagulation, omentoplasty and application of fibrin glue.

METHODOLOGY: The PlasmaJet, a recent tool that provides a high energy flow of ionized gas which seals small blood and lymph vessels has been recently introduced into clinical practice. We have conducted a randomized trial comparing the application of 5mL of fibrin glue (Tissucol) and the treatment by PlasmaJet (Plasma Surgical Limited, Theale, UK) on the raw surface of the liver stump after elective hepatic resection.

RESULTS: Fifty-eight consecutive hepatic resections were performed and the postoperative mortality, blood transfusions and reoperations were not statistically different between the groups. However, there was a significant reduction of the incidence of collections requiring percutaneous drainage in the PlasmaJet group ($p<0.001$).

CONCLUSIONS: Compared to fibrin glue application, the employment of PlasmaJet on the raw surface of the liver stump led to a significant reduction of postoperative complications requiring percutaneous drainage after elective hepatectomy.