Commercial fibrin sealants are not equivalent in a rabbit liver-resection model which quantitatively evaluates hemostasis and formation of adhesions.

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Abstract:

A rabbit partial liver resection model was used to determine the hemostatic effectiveness of a new fibrin sealant. Persistent bleeding, with a mean bleeding time of 372 s and blood loss of 18 ml, from a resected lobe of the liver was achieved after rabbits in the untreated control group had been infused continuously with unfractionated heparin over 20 min with 0.2 IU/ml at a rate of 1 ml/min. Spraying the resected surface with the new fibrin sealant, Quixil, reduced bleeding to < 1 ml and the post-resection bleeding times was 25 s. Bleeding time, blood loss and the volume of sealant used in the rabbit model were inversely correlated with the thrombin concentration in the sealant. In direct comparisons with Tissucol and Beriplast, Quixil was associated with the shortest bleeding times, the lowest volume of sealant used and the lowest score of abdominal adhesions.