Fibrin glue does not improve healing of gastrointestinal anastomoses: a systematic review. [Review]

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Abstract:

BACKGROUND/AIM: Anastomotic leakage remains a frequent and serious complication in gastrointestinal surgery. In order to reduce its incidence, several clinical and experimental studies on anastomotic sealing have been performed. In a number of these studies, the sealing material has been fibrin glue (FG), and the results in individual studies have been varying. The positive effect of anastomotic sealing with FG might be due to the mechanical/physical properties, the increased healing of the anastomoses or both. The aim of this systematic review was to evaluate the existing evidence on the healing effects of FG on gastrointestinal anastomoses.

METHODS: PubMed, EMBASE and the Cochrane databases were searched for studies evaluating the healing process of gastrointestinal anastomoses after any kind of FG application. The search period was from 1953 to December 2013.

RESULTS: Twenty-eight studies were included in the qualitative synthesis. These studies were all experimental studies, since no human studies used histological or biochemical evaluation of healing. In 7 of the 28 studies, a positive effect of FG on healing was found, while 8 studies reported a negative effect and 11 studies found no effect. Furthermore, 2 studies reported unclear results. The difference in the study outcome was independent of the study design and the type of FG used.

CONCLUSION: In the available studies, FG did not consistently have a positive influence on the

healing of gastrointestinal anastomoses. It is consequently plausible that the positive effect of FG sealing of gastrointestinal anastomoses, if there is any, may be due to a mechanical sealing effect rather than due to improved healing per se.