Fibrin sealants for the prevention of postoperative pancreatic fistula following pancreatic surgery.

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Abstract:

Background: Postoperative pancreatic fistula is one of the most frequent and potentially life-threatening complications following pancreatic resections. Fibrin sealants are introduced to reduce postoperative pancreatic fistula by some surgeons. However, the use of fibrin sealants during pancreatic surgery is controversial. Objectives: To assess the safety, effectiveness, and potential adverse effects of fibrin sealants for the prevention of postoperative pancreatic fistula following pancreatic surgery. Search methods: We searched The Cochrane Library (2015, Issue 7), MEDLINE (1946 to 26 August 2015), EMBASE (1980 to 26 August 2015), Science Citation Index Expanded (1900 to 26 August 2015), and Chinese Biomedical Literature Database (CBM) (1978 to 26 August 2015). Selection criteria: We included all randomized controlled trials that compared fibrin sealant group (fibrin glue or fibrin sealant patch) versus control group (no fibrin sealant or placebo) in people undergoing pancreatic surgery. Data collection and analysis: Two review authors independently identified the trials for inclusion, collected the data, and assessed the risk of bias. We performed the meta-analyses using Review Manager 5. We calculated the risk ratio (RR) for dichotomous outcomes (or a Peto odds ratio for very rare outcomes), and the mean difference (MD) for continuous outcomes with 95% confidence intervals (CI). Main results: We included nine trials involving 1095 participants who were randomized to the fibrin sealant group (N = 550) and the control group (N = 545) after pancreatic surgery. All of the trials were at high risk of bias. There was no evidence of differences in overall postoperative pancreatic fistula (fibrin sealant 29.6%; control 31.0%; RR 0.93, 95% CI 0.71 to 1.21; P = 0.58; nine studies; low-quality evidence), postoperative

mortality (3.1% versus 2.1%; Peto OR 1.29, 95% CI 0.59 to 2.82; P = 0.53; eight studies; very low-quality evidence), overall postoperative morbidity (29.6% versus 28.9%; RR 1.04, 95% CI 0.82 to 1.32; P = 0.77; five studies), reoperation rate (8.7% versus 10.7%; RR 0.80, 95% CI 0.53 to 1.21; P = 0.29; five studies), or length of hospital stay (12.9 days versus 13.1 days; MD -0.73 days, 95% CI -2.20 to 0.74; P = 0.331; six studies) between the groups. The proportion of postoperative pancreatic fistula that was clinically significant was not mentioned in most trials. On inclusion of trials that clearly distinguished clinically significant fistulas, there was inadequate evidence to establish the effect of fibrin sealants on clinically significant postoperative pancreatic fistula (9.4% versus 13.4%; RR 0.72, 95% CI 0.42 to 1.21; P = 0.21; three studies). Quality of life and cost effectiveness were not reported in any of the trials. Authors' conclusions: Based on the current available evidence, fibrin sealants do not seem to prevent postoperative pancreatic fistula in people undergoing pancreatic surgery.