The efficacy of fibrin sealant in knee surgery: A meta-analysis.

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Abstract:

Background: Fibrin sealant is frequently used in knee surgery as an adjuvant method for reducing postoperative bleeding, however, there is no consensus regarding the efficacy of fibrin sealant. Hypothesis: Fibrin sealant achieves better efficacy in terms of blood loss control, transfusion rate and units in knee surgery compared with controls. Methods: A search of the Cochrane Collaboration (2013 Issue 09), Embase (1974-2013.09), PubMed (1966-2013.09) and Chinese databases (up to 2013.09) were conducted. The Cochrane Collaboration's tool was used to assess for bias and data were analyzed by RevMan 5.29 software. Results: This study included nine RCTs and four prospective comparative trials with a total of 1299 patients. Compared to the control, fibrin sealant achieved a decrease in hemoglobin reduction [MD. = 1.14, 95% CI (0.61-1.67)], transfusion rate [OR. = 0.36, 95% CI (0.25-0.51)], transfusion units [MD. = 0.47, 95% CI (0.24-0.71)], hospital stay [MD. = 2.22, 95% CI (0.56-3.88)] and the incidence of complications [OR. = 0.56, 95% CI (0.38-0.83)]. And it also reduced total blood loss, while there was no significant difference [MD. = 155.83, 95% CI (-525.02-213.15)]. Conclusion: Patients undergoing knee surgery would benefit from high-dose fibrin sealant with reduced transfusion rate and unit, hospital stay and complications, while they might benefit little from it in total blood loss. However, the effects of a low-dose of fibrin in knee surgery remain inconclusive. Level of evidence: Level III.