Is fibrin sealant effective and safe in total knee arthroplasty? A meta-analysis of randomized trials.

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Publication Date: 2014

Abstract:

The objective of this study was to evaluate the efficacy and safety of fibrin sealant in patients following total knee arthroplasty (TKA). A comprehensive literature search of the electronic databases PubMed, MEDLINE, Web of Science, and Cochrane Library for published randomized controlled trials (RCTs) was undertaken. The evidence base was critically appraised using a tool from the Cochrane Bone, Joint and Muscle Trauma Group. Eight RCTs involving 641 patients were included. The use of fibrin sealant significantly reduced postoperative drainage (weighted mean difference (WMD) -346, 95% confidence interval (CI) -496.29 to -197.54, P < 0.00001) and blood transfusions (risk ratio (RR) 0.47, 95% CI 0.35 to 0.63, P < 0.00001) and led to a significant improvement in the range of motion (WMD 16.59, 95% CI 6.92 to 26.25, P = 0.0008). However, using fibrin sealant did not significantly reduced total blood loss (WMD -305.25, 95% CI -679.44 to 68.95, P = 0.11). Regarding complications, there were no significant differences in any adverse events, fever, infection, or hematoma among the study groups. In conclusion, the present meta-analysis indicates that the use of fibrin sealant was effective and safe as a hemostatic therapy for patients with TKA.