The efficiency and safety of fibrin sealant for reducing blood loss in primary total hip arthroplasty: A systematic review and meta-analysis.

Authors: Wang Z., Xiao L., Guo H., Zhao G., Ma J.

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Abstract:

Objective Total hip arthroplasty (THA) is associated with substantial blood loss. The objective of present systematic review and meta-analysis is to provide evidence from randomized controlled trials (RCTs) on the efficiency and safety of administration of fibrin sealant (FS) for reducing blood loss in patients undergoing primary THA. Methods Potential relevant studies were identified from electronic databases including Medline, PubMed, Embase, ScienceDirect, web of science and Cochrane Library. Gray academic studies were also identified from the reference list of included studies. There was no language restriction. Pooling of data was carried out by using RevMan 5.1. Results Six randomized controlled trials (RCTs) met the inclusion criteria. Current meta-analysis indicated that there were significant differences in terms of total blood loss (MD = -153.77, 95% CI: -287.21 to -20.34, P = 0.02), postoperative hemoglobin level (MD = -0.25, 95% CI: -0.46 to -0.05, P = 0.02) and transfusion rate (RD = -0.12, 95% CI: -0.22 to -0.03, P = 0.01) between groups. No significant differences were found regarding the incidence of deep venous thrombosis (DVT) (RD = 0.00, 95% CI: -0.01to 0.01, P = 0.51) or other side effects. Conclusion Administration of fibrin sealant in total hip arthroplasty may reduce total blood loss, postoperative hemoglobin decline and transfusion requirements. Moreover, no adverse effect was related to FS. Due to the limited quality of the evidence currently available, higher quality RCTs are required.