



“...evaluate the efficacy and safety of heparin in patients with sepsis, septic shock, or disseminated intravascular coagulation associated with infection” Zarychanski et al.

Reference:

Zarychanski, R., Abou-Setta, A.M., Kanji, S., Turgeon, A.F., Kumar, A., Houston, D.S., Rimmer, E., Houston, B.L., McIntyre, L., Fox-Robichaud, A.E., Hébert, P. and Cook, D.J. (2014) The Efficacy and Safety of Heparin in Patients With Sepsis: A Systematic Review and Metaanalysis. Critical Care Medicine. December 9th .

Efficacy and safety of heparin in patients with sepsis <http://ctt.ec/lr03H+> @ivteam #ivteam

Click To Tweet

Abstract:

OBJECTIVE: To evaluate the efficacy and safety of heparin in patients with sepsis, septic shock, or disseminated intravascular coagulation associated with infection.

DESIGN: Systematic review and metaanalysis.

DATA SOURCES: Randomized controlled trials from MEDLINE, EMBASE, CENTRAL, Global Health, Scopus, Web of Science, the International Clinical Trials Registry Platform (inception to April 2014), conference proceedings, and reference lists of relevant articles.

STUDY SELECTION AND DATA EXTRACTION: Two reviewers independently identified and extracted trial-level data from randomized trials investigating unfractionated or low molecular heparin administered to patients with sepsis, severe sepsis, septic shock, or disseminated intravascular coagulation associated with infection. Internal validity was assessed in duplicate using the Risk of Bias tool. The strength of evidence was assessed in duplicate using Grading of Recommendations Assessment, Development, and Evaluation methodology. Our primary outcome was mortality. Safety outcomes included hemorrhage, transfusion, and thrombocytopenia.

MEASUREMENTS AND MAIN RESULTS: We included nine trials enrolling 2,637 patients. Eight trials were of unclear risk of bias and one was classified as having low risk of bias. In trials comparing heparin to placebo or usual care, the risk ratio for death associated with heparin was 0.88 (95% CI, 0.77-1.00; I = 0%; 2,477 patients; six trials; moderate strength of evidence). In trials comparing heparin to other anticoagulants, the risk ratio for death was 1.30 (95% CI, 0.78-2.18; I = 0%; 160 patients; three trials; low strength of evidence). In trials comparing heparin to placebo or usual care, major hemorrhage was not statistically significantly increased (risk ratio, 0.79; 95% CI, 0.53-1.17; I = 0%; 2,392 patients; three trials). In one small trial of heparin compared with other anticoagulants, the risk of major hemorrhage was significantly increased (2.14; 95% CI, 1.07-4.30; 48 patients). Important secondary and safety outcomes, including minor bleeding, were sparsely reported.

CONCLUSIONS: Heparin in patients with sepsis, septic shock, and disseminated intravascular coagulation associated with infection may be associated with decreased mortality; however, the overall impact remains uncertain. Safety outcomes have been underreported and require further study. Increased major bleeding with heparin administration cannot be excluded. Large rigorous randomized trials are needed to evaluate more carefully the efficacy and safety of heparin in patients with sepsis, severe sepsis, and septic shock.

Thank you to our partners for supporting IVTEAM

