



In conclusion, the use of heparin as continuous infusion in peripheral intravenous catheters improved the duration of patency, reduced infusion failure and phlebitis, whereas heparin as intermittent flushing showed more benefits in ameliorating phlebitis rather than in patency profiles” You et al (2017).

Abstract:

Heparin has typically been used as a flushing or infusion solution for vascular lines in daily practice. However, several clinical trials have yielded controversial results about the benefits of heparin in maintaining peripheral venous catheters. The present meta-analysis was conducted to evaluate the efficacy of heparin on the patency profiles and complications in peripheral intravenous catheters. PubMed, Embase and Cochrane Central Register of Controlled Trials were searched up to February 2016 for randomized controlled trials comparing heparin with placebo in maintaining peripheral intravenous catheters. Additional studies were retrieved from the reference lists of identified articles. In total 32 eligible studies were included, from which the pooled standard mean difference (SMD), relative risk (RR) and corresponding 95% confidence interval (CI) were calculated.

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The use of heparin as a continuous infusion significantly prolonged the duration of patency (SMD, 0.90; 95% CI, 0.48-1.32; $P < 0.001$), reduced rates of infusion failure (RR, 0.83; 95% CI, 0.76-0.92; $P < 0.001$) and occlusion (RR, 0.82; 95% CI, 0.69-0.98; $P < 0.05$) in a peripheral intravenous catheter. However, there were no significant changes in the duration of patency and infusion failure when heparin was used intermittently as a flushing solution, although a significantly decreased risk of occlusion was observed in this setting (RR, 0.80; 95% CI, 0.66-0.98; $P < 0.05$). Furthermore, the risk of phlebitis was significantly decreased by both continuous infusion (RR, 0.66; 95% CI, 0.58-0.75; $P < 0.01$) and intermittent flushing (RR, 0.70; 95% CI, 0.56-0.86; $P < 0.01$) of heparin in peripheral venous catheters. In conclusion, the use of heparin as continuous infusion in peripheral intravenous catheters improved the duration of patency, reduced infusion failure and phlebitis, whereas heparin as intermittent flushing showed more benefits in ameliorating phlebitis rather than in patency profiles.

Reference:

You, T., Jiang, J., Chen, J., Xu, W., Xiang, L. and Jiao, Y. (2017) Necessity of heparin for maintaining peripheral venous catheters: A systematic review and meta-analysis. *Experimental and Therapeutic Medicine*. 14(2), p.1675-1684.

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