Infusion phlebitis risk varies by peripheral venous catheter site and increases after 96 hours

#IVTEAM #Intravenous literature: “The likelihood of phlebitis independently increased with increasing catheter duration, being highest after 96 hours.” Cicolini et al (2014).

Reference:

Abstract:
Aims: This multi-centre prospective field study evaluated whether peripheral venous catheter site of insertion influences the risk of catheter-related phlebitis. Potential predictors of phlebitis were also investigated.

Background: Millions of patients worldwide use peripheral venous catheters, which frequently cause local complications including phlebitis, infection and obstruction. Although phlebitis predictors have been broadly investigated, uncertainties remain on the potential effect of cannulation anatomical site, duration and the appropriate time for catheter removal.

Design: A prospective cohort design was carried out from January–June 2012.

Methods: The clinical course of each patient who received a new peripheral venous catheter for any cause in five Italian hospitals was followed by trained nurses until catheter removal. The presence of phlebitis was assessed every 24 hours using the Visual Infusion Phlebitis score. Analyses were based upon multilevel mixed-effects regression.

Results: The final sample consisted of 1498 patients. The average time for catheters in situ was 65·6 hours and 23·6% of the catheters were in place beyond 96 hours. Overall phlebitis incidence was 15·4%, 94·4% of which were grade 1. The likelihood of phlebitis independently increased with increasing catheter duration, being highest after 96 hours. Compared with patients with catheter placed in the dorsum of the hand (22·8% of the sample), those with the catheter located in the antecubital fossa (34·1%) or forearm were less likely to have a phlebitis of any grade.
Conclusions: Antecubital fossa and forearm veins may be preferential sites for peripheral venous cannulation. Our results support Centers for Disease Control and Prevention recommendations to replace catheters in adults no later than 96 hours. A relevant proportion of healthcare personnel did not adhere to such guidelines – more attention to this issue is required.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).