This study compared the rate of venous thrombosis in patients with and without US-guided catheter placement” Holder et al (2017).

Abstract:

Approximately 90% of hospitalized patients have a short peripheral intravenous catheter (SPC) placed. Methods of inserting the catheter have evolved over time and now include the use of ultrasound (US)-guided procedures for placement. Little is known about the impact that US-guided procedures have on the vein. This study compared the rate of venous thrombosis in patients with and without US-guided catheter placement. This prospective, single-blind, observational study assessed for venous thrombosis in 153 veins from 135 patients. Veins were evaluated by a research nurse blinded to the method of placement between 48 and 72 hours after the SPC was placed.

The Fisher exact test showed a significant difference between vessel compressibility and catheter insertion method (P = .0012). The proportion of noncompressible veins was significantly greater when US was used in comparison with freehand SPC insertion. The Mantel-Haenszel chi-square value of 10.34 (P = .0013) showed that US insertion technique is associated with a higher likelihood of noncompressible veins. This pilot study provides
compelling evidence that the use of US to assist with catheter placement is associated with a higher rate of noncompressible veins at day 2 or 3. Further studies are needed with a larger sample to determine the generalizability of the results from this pilot study.

Reference:


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