



A current innovation focus has been the development of anti-thrombogenic catheter materials, including hydrophilic and hydrophobic surfaces” Ullman et al (2018).

Abstract:

Thrombotic complications associated with peripherally inserted central catheters (PICCs) are common, as most synthetic materials when placed in the presence of serum often result in platelet activation, fibrin deposition, thrombotic occlusion and potentially embolization. A current innovation focus has been the development of anti-thrombogenic catheter materials, including hydrophilic and hydrophobic surfaces. These are being incorporated into PICCs in an attempt to prevent the normal thrombotic cascade leading to patient harm. Areas covered: This review focuses on the laboratory efficacy and clinical effectiveness of anti-thrombogenic PICCs to prevent PICC-associated thrombosis, as well as their efficiency and safety. This synthesis was informed by a systematic identification of published and unpublished laboratory and clinical studies evaluating these technologies.

Expert commentary: A range of PICCs have been developed with anti-thrombogenic claims, using varying technologies. However, to date there is no peer-reviewed laboratory research describing the individual PICCs effectiveness. Despite promising early clinical trials, adequately powered trials to establish efficacy, effectiveness, efficiency and safety of all of the individual products, have not yet been undertaken.

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Reference:

Ullman, A.J., Bulmer, A.C., Dargaville, T.R., Rickard, C.M. and Chopra, V. (2018) Anti-thrombogenic peripherally inserted central catheters: Overview of efficacy and safety. Expert Review of Medical Devices. December 4th. .

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