“Thrombosis and infections are the main causes of catheter-related comorbidity. Fibrin sheath, intimately related with the biofilm, is the precipitating factor of this environment, determining catheter patency and patient morbidity” Ibeas-Lopez (2015)

Reference:

Ibeas-Lopez, J. (2015) New technology: heparin and antimicrobial-coated catheters. The Journal of Vascular Access. 16(Suppl. 9), p.48-53.

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Abstract:

Although tunneled hemodialysis catheter must be considered the last option for vascular access, it is necessary in some circumstances in the dialysis patient. Thrombosis and infections are the main causes of catheter-related comorbidity. Fibrin sheath, intimately related with the biofilm, is the precipitating factor of this environment, determining catheter patency and patient morbidity. Its association with bacterial overgrowth and thrombosis has led to the search of multiple preventive measures. Among them is the development of catheter coatings to prevent thrombosis and infections. There are two kinds of treatments to cover the catheter surface: antithrombotic and antimicrobial coatings. In nondialysis-related

settings, mainly in intensive care units, both have been shown to be efficient in the prevention of catheter-related infection. This includes heparin, silver, chlorhexidine, rifampicine and minocycline. In hemodialysis population, however, few studies on surface-treated catheters have been made and they do not provide evidence that shows complication reduction. The higher effectiveness of coatings in nontunneled catheters may depend on the short average life of these devices. Hemodialysis catheters need to be used over long periods of time and require clinical trials to show effectiveness of coatings over long periods. This also means greater knowledge of biofilm etiopathogeny and fibrin sheath development.

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