

Also, the use of lock with substances with anti-bacterial and anti-biofilm activity (such as citrate or taurolidine) should be taken into consideration in selected populations of patients” Pittiruti et al (2016).

Abstract:

BACKGROUND: The most appropriate lock solution for central venous access devices is still to be defined. GAVeCeLT - the Italian group for venous access devices - has developed a consensus on the evidence-based criteria for the choice and the clinical use of the most appropriate lock solution for central venous catheters (excluding dialysis catheters).

METHOD: After the constitution of a panel of experts, a systematic collection and review of the literature has been performed, focusing on clinical studies dealing with lock solutions used for prevention of occlusion (heparin, citrate, urokinase, recombinant tissue plasminogen activator , normal saline) or for prevention of infection (citrate, ethanol, taurolidine, ethylene-diamine-tetra-acetic acid , vancomycin, linezolid and other antibiotics), in both adults and in pediatric patients. Studies on central lines used for dialysis or pheresis, on peripheral venous lines and on arterial lines were excluded from this analysis. Studies on lock solutions used for treatment of obstruction or infection were not considered. The consensus has been carried out according to the Delphi method.

RESULTS: The panel has concluded that: (a) there is no evidence supporting the heparin lock; (b) the prevention of occlusion is based on the proper flushing and locking technique with normal saline; (c) the most appropriate lock solution for infection prevention should include citrate and/or taurolidine, which have both anti-bacterial and anti-biofilm activity, with negligible undesired effects if compared to antibiotics; (d) the patient populations most likely to benefit from citrate/taurolidine lock are yet to be defined.

CONCLUSIONS: The actual value of heparinization for non-dialysis catheters should be reconsidered. Also, the use of lock with substances with anti-bacterial and anti-biofilm activity (such as citrate or taurolidine) should be taken into consideration in selected populations of patients.

Reference:

Pittiruti, M., Bertoglio, S., Scoppettuolo, G., Biffi, R., Lamperti, M., Dal Molin, A., Panocchia, N., Petrosillo, N., Venditti, M., Rigo, C. and DeLutio, E. (2016) Evidence-based criteria for the choice and the clinical use of the most appropriate lock solutions for central venous catheters (excluding dialysis catheters): a GAVeCeLT consensus. *The Journal of Vascular Access*. August 1st. .

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