This study investigated if the additional use of hydrochloric acid (HCl) as an intraluminal lock solution may prolong the lifetime of the CVC” Ahmad et al (2019).

Abstract:

INTRODUCTION: Bacteraemia in adult patients undergoing treatment for leukaemia is common and associated with profound morbidity and mortality. Infections related to the use of a central venous catheter (CVC) are difficult to eliminate with systemic antibiotics. Premature catheter removal is often due to retained biofilm infection. This study investigated if the additional use of hydrochloric acid (HCl) as an intraluminal lock solution may prolong the lifetime of the CVC.

METHODS: The study was performed retrospectively based on a database including patients with a tunneled Leonard 10 F dual or triple lumen CVC implanted who received HCl instillation due to bacteraemia during a five-year period.

RESULTS: In a total of 71 cases of bacteraemia, HCl instillation was performed. Following HCl instillation, the CVC was not removed due to infection in 49 out of 71 patients (69%). Furthermore, 22 patients (31%) retained their CVC until the end of treatment. Non-infectious mortality (19/71), accidental pull (2/71) or mechanical CVC dysfunction (6/71) were other reasons for premature removal. Twenty-two catheters (31%) had to be removed due to ongoing infection. The median time from CVC placement until HCl instillation was 39 days.
The median time from HCl instillation until removal of CVC was 58 days. The most common bacteriological findings were coagulase-negative staphylococci 34%, Enterococcus spp 14% and Escherichia coli 14%.

CONCLUSIONS: The study’s findings indicate that a prolonged use of CVC is possible following HCl instillation in adult haematologic patients with bacteraemia.

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