



There are few data to inform decisions about the optimal management of occluded tunneled cuffed hemodialysis catheters with thrombolytic locking solutions. The effect of dose, dwell-time, and number of administrations remains controversial” Van Hulle et al (2018).

Abstract:

BACKGROUND: There are few data to inform decisions about the optimal management of occluded tunneled cuffed hemodialysis catheters with thrombolytic locking solutions. The effect of dose, dwell-time, and number of administrations remains controversial.

METHODS: In this retrospective single-center review of tunneled cuffed catheters used between 2010 and 2014, restoration of blood flow as well as pre- and post-pump pressures after either short (30 min) or prolonged (48-72 h) administration of 100,000 IU of urokinase locking solution was evaluated in all thrombotic dysfunctions. We also assessed if multiple urokinase locks for the same thrombotic dysfunction event were more efficient to restore catheter performance than single administration.

RESULTS: Data on 773 thrombotic events in 148 patients (236 catheters) were collected during observation period. After urokinase treatment, blood flow and pre-pump pressure improved (median of 50 mL/min and 20 mmHg) whereas post-pump pressure decreased

(median of 15 mmHg) (all $P < 0.0001$). The short thrombolytic procedure, used in more severely dysfunctional catheters, resulted in significantly larger improvements in catheter function than the long procedure. Multiple administrations for the same thrombotic event further improved access function in case of persisting dysfunction after first lock but had no added beneficial effect if blood flow and/or pump pressures were normalized after first urokinase lock.

CONCLUSION: Both short and prolonged administration of urokinase locks were efficient in restoring blood flow and pre- and post-pump pressures in dialysis catheters with thrombotic dysfunction. Multiple urokinase locks provide added benefit on these outcomes only in case of persisting dysfunction after the first lock.

Reference:

Van Hulle, F., Bonkain, F., De Clerck, D., Aerden, D., Vanwijn, I., Tielemans, C. and Wissing, K.M. (2018) Efficacy of urokinase lock to treat thrombotic dysfunction of tunneled hemodialysis catheters: A retrospective cohort study. *The Journal of Vascular Access*. June 1st. .

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