

## **Catheter locking solutions such as recombinant tissue plasminogen activator (rt-PA) are used to treat and prevent clotting of hemodialysis (HD) catheters during HD treatments and the interdialytic period” Wilson et al (2016).**

### Abstract:

**PURPOSE:** Catheter locking solutions such as recombinant tissue plasminogen activator (rt-PA) are used to treat and prevent clotting of hemodialysis (HD) catheters during HD treatments and the interdialytic period. However, evidence to guide the use of rt-PA for catheter dysfunction is limited.

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**METHODS:** We evaluated outcomes using two catheter dysfunction protocols in a cohort of consecutive prevalent dialysis patients (Jan 2013 to Sep 2014) undergoing HD with a tunneled catheter. In the intensive protocol, rt-PA was administered to all catheters based on blood flow and/or line reversal. In the standard protocol, rt-PA administration was based only on blood flow. The primary outcome was the rate of rt-PA use for catheter malfunction (rt-PA treatment days/1000 total line days; ). Secondary outcomes included the cost of rt-PA/TLD and the rate of catheter-related bacteremia.

**RESULTS:** There were 26 and 35 patients managed by the intensive and standard protocols, respectively. The rate of rt-PA use was 52/1000 TLD (intensive) versus 39/1000 TLD (standard) (rate ratio 1.30, 95% CI 1.12-1.52 CI,  $p < 0.001$ ). The rate of bacteremia was 0.43 and 0.22/1000 TLD for the intensive and standard protocols, respectively ( $p = 0.491$ ). The cost of rt-PA was CDN \$5.58 and CDN \$6.15 per TLD for the intensive protocol and standard protocol groups ( $p < 0.001$ ).

**CONCLUSIONS:** Managing catheter dysfunction based on line reversal and blood flow as opposed to only blood flow was associated with a higher rate of rt-PA use, but at a reduced overall cost.



Reference:

Wilson, J.S., Mossop, P., Soroka, S.D., Dipchand, C., Drost, S., Sheehy, N. and Tennankore, K. (2016) Comparison of intensive versus standard hemodialysis central venous catheter dysfunction protocol using rt-PA: a quality assurance initiative. The Journal of Vascular Access. February 5th. .

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