To compare the efficacy of alteplase vs. urokinase in reestablishing adequate blood flow through completely occluded vascular catheters” Pollo et al (2016).

Abstract:

Introduction: Thrombosis of tunneled central venous catheters (CVC) in hemodialysis (HD) patients is common and it can lead to the elimination of vascular sites. To compare the efficacy of alteplase vs. urokinase in reestablishing adequate blood flow through completely occluded vascular catheters.

Methods: In this randomized study, patients with completely occluded tunneled HD catheters received 40 minutes intracatheter dwell with alteplase (1 mg/mL) or urokinase (5000 IU/mL). Primary endpoint was the proportion of patients with occluded catheters achieving post-thrombolytic blood flow of ≥250 mL/min. Safety endpoints included the incidence of hemorrhagic and infectious complications.

Findings: Eligible adult patients (n = 100) were treated with alteplase (n = 44) or urokinase (n = 56). The two groups were similar in gender (male: 51.8% vs. 56.8%, P = 0.35), age (60 ± 12 vs. 59 ± 13 years, P = 0.71), time on dialysis (678 ± 203 vs. 548 ± 189 days, P = 0.77), diabetes and cardiovascular disease (55.6% vs. 70.4%, P = 0.08 and 17.8% vs. 22.7%, P = 0.38, respectively), jugular vein as main vascular access (54.8% vs. 62.5%, P = 0.57), and time of CVC (278 ± 63 vs. 218 ± 59 days, P = 0.67). Primary success with alteplase and urokinase occurred in 42/44 (95%) vs. 46/56 (82%), P = 0.06. Success was not achieved after the second dose of alteplase and urokinase in 1 and 7 cases, respectively (2% vs. 12%, P = 0.075). Serious adverse effects were not observed in both groups. There was no difference between the two groups in infectious complications (P = 0.94).

Discussion: Alteplase and urokinase are effective thrombolytic agents for restoring HD catheter patency. Our study has revealed a likely slight superiority of alteplase over
urokinase for unblocking central lines, but which has enrolled too few patients to be able to detect a difference of this size.

**Reference:**


**Thank you to our partners for supporting IVTEAM**