Central venous tunnelled hemodialysis catheters (CVTC) are used for initial vascular access in patients with renal failure. Tip design of the CVTC may play an important role in catheter function and complication rates, influencing adequate hemodialysis treatment of these patients” Petridis et al (2016).

Abstract:

OBJECTIVE/BACKGROUND: Central venous tunnelled hemodialysis catheters (CVTC) are used for initial vascular access in patients with renal failure. Tip design of the CVTC may play an important role in catheter function and complication rates, influencing adequate hemodialysis treatment of these patients.

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METHODS: This prospective, observational cohort study compared the function and complication rates of two CVTCs in patients with end stage renal disease (ESRD) within a follow-up period of 24 months. The study included patients with ESRD who received either a CVTC with a split tip (ST) or a shotgun tip (SG). All patients underwent dialysis within 24 h of intervention. Blood flow was documented initially (Qb0) and was followed up after 6 (Qb6), 12
(Qb12), and 24 (Qb24) months. Analysis of blood flow and complication rates within the follow-up period was performed by questionnaires.

RESULTS: In total, 185 patients were included, of whom 93 received a ST CVTC and 92 a SG CVTC. Baseline parameters did not differ significantly between groups. CVTC blood flow was not significantly different between the two devices. Thrombolytic therapy with Alteplase was used significantly more often in the ST group (29%) than in the SG group (16%) (p < 0.05). The CVTC replacement rate was significantly higher in the ST group (19.3%) compared with the SG group (8.7%) (p < 0.05).

CONCLUSIONS: The tip design of CVTC (split or shotgun) appears to be irrelevant for long-term blood flow during dialysis treatment. However, patients may benefit from SG catheters over ST catheters where replacement rates and thrombolytic treatment are concerned.

Reference:


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