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Abstract:

BACKGROUND & AIMS: Central venous access device (CVAD)-related complications, such as central-line associated bloodstream infections (CLABSIs), CVAD-related venous thromboses (CRVTs) and -occlusions frequently occur in home parenteral nutrition (HPN) patients. A preventive strategy to decrease the incidence of CLABSIs is the use of CVAD lock solutions, such as 2% taurolidine. The aim of this study was to evaluate long-term clinical outcomes of our HPN cohort while using taurolidine as lock solution. In addition, we explored risk factors associated with CVAD-related complications.

METHODS: We conducted a retrospective analysis of complications (CLABSIs, CRVTs and CVAD occlusions) and adverse events in adult HPN patients while using taurolidine as lock solution. Patients with a benign underlying disease leading to intestinal failure were included between 2006 and 2017 at our tertiary referral centre for intestinal failure. Primary outcome was the effectiveness of taurolidine, as described by complication incidence rates. Secondary objectives were to assess adverse events of taurolidine, complication rates of patients who subsequently discontinued taurolidine and started using 0.9% saline alternatively, and risk factors associated with complications.

RESULTS: In total, 270 HPN patients used taurolidine during 338521 catheter days. CLABSIs, CRVTs and CVAD occlusions occurred at a rate of 0.60 (CI95% 0.52-0.69), 0.28 (CI95% 0.23-0.34), and 0.12 (CI95% 0.08-0.16) events per 1000 catheter days, respectively. In 24 (9%) patients, mild to moderate adverse events resulted in discontinuation of 2% taurolidine. A subsequent switch to 0.9% saline resulted in an increased CLABSI rate (adjusted rate ratio 4.01 (95%CI 1.23-13.04), P = 0.02). Several risk factors were identified for CLABSIs (a lower age, nontunneled catheters, infusion frequency), CRVTs (site of vein insertion), and CVAD occlusions (type of CVAD).

CONCLUSION: Complication rates remained low in the long-term, and use of taurolidine was generally safe. The identified risk factors may help to create new strategies to further

prevent CVAD-related complications and improve HPN care in the future.

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Reference:

Wouters, Y., Roosenboom, B., Causevic, E., Kievit, W., Groenewoud, H. and Wanten, G.J.A. (2018) Clinical outcomes of home parenteral nutrition patients using taurolidine as catheter lock: A long-term cohort study. *Clinical Nutrition*. September 20th. .

doi: [10.1016/j.clnu.2018.09.020](https://doi.org/10.1016/j.clnu.2018.09.020).