Patients with end-stage renal disease (ESRD) on maintenance hemodialysis (HD) are at risk for occurrence of vascular access thrombosis and venous thromboembolism (VTE). Understanding the extent of these complications and identifying risk factors can help improve management strategies” Königsbrügge et al (2017).

Abstract:

BACKGROUND: Patients with end-stage renal disease (ESRD) on maintenance hemodialysis (HD) are at risk for occurrence of vascular access thrombosis and venous thromboembolism (VTE). Understanding the extent of these complications and identifying risk factors can help improve management strategies.

METHODS: Adult HD patients were cross-sectionally recruited into the Vienna InVestigation of Atrial fibrillation and thromboembolism in patients on hemoDalysis (VIVALDI). In this investigation, retrospective data on the incidence and risk of VTE and vascular access thrombosis was analyzed using logistic regression and negative binomial regression for counts of vascular access thrombosis episodes.
RESULTS: The analysis includes 626 patients on HD, which constitutes 73% of the total HD population in Vienna, Austria. One-hundred-seventy-eight patients (28.4%) had 275 vascular access thrombosis events during 2463.1 patient-years on HD, corresponding to an incidence rate (IR) of 111.6 events per 1000 patient-years on HD. In the multivariable negative binomial regression model, we found that patients suffered from vascular access thrombosis 2.5 times more often (IR ratio 2.63, 95% confidence interval 1.48-4.68, p=0.001) if toxic nephropathy was their cause of ESRD (n=28, 4.5%) compared to patients with other causes of ESRD. Sixty-one patients (9.7%) had a history of VTE and the IR of VTE events during the time on HD was 10.9 per 1000 patient-years on HD (women: IR 15.1, men IR 8.6). Female sex (odds ratio 1.90, 95%CI 1.07-3.36, p=0.029) and atrial fibrillation (OR 2.00, 95%CI 1.10-3.64, p=0.023) were independently associated with VTE.

CONCLUSIONS: Thromboembolic events including vascular access thrombosis and VTE are frequent complications in patients on HD. Risk evaluation for thromboembolism, including sex and clinical parameters, may identify high-risk patients and improve their clinical management.

Reference:


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