Vascular access dysfunction is a major cause of morbidity in patients with end-stage renal disease (ESRD) on hemodialysis (HD). Thus, identifying risk factors for vascular access failure is important" Kim et al (2019).

Abstract:

INTRODUCTION: Vascular access dysfunction is a major cause of morbidity in patients with end-stage renal disease (ESRD) on hemodialysis (HD). Thus, identifying risk factors for vascular access failure is important. Patients on HD are routinely exposed to high blood pressure variability (BPV) during HD. However, the impact of intradialytic BPV on vascular access outcomes is unknown. Therefore, we investigated the association of intradialytic BPV with vascular access outcomes in patients on HD.

METHODS: One hundred and thirty patients with ESRD who created vascular access for HD were evaluated. We examined 12 dialysis sessions per patient and recorded BP five times for each session. BPV was assessed using residual standard deviation derived from the linear regression model. The patients were divided into two groups according to a level below or above the median value of intradialytic BPV and compared. The primary outcome was primary unassisted vascular access patency.

FINDINGS: The median time to loss of primary unassisted patency was significantly longer in low intradialytic BPV group than in high intradialytic BPV group (52 months vs. 21 months, $P < 0.001$) during the mean follow-up of 3.7 years. After adjustment for other variables, high intradialytic BPV was significantly associated with loss of primary unassisted vascular access patency (hazard ratio, 2.605; 95% confidence interval, 1.462-4.643; $P = 0.001$). DISCUSSION: Our study revealed a significant correlation between intradialytic BPV and vascular access patency. Further studies are needed to identify methods for lowering BPV.

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Reference:

Kim, J.Y., Seo, H.M., Kim, M. and Kim, H. (2019) A relationship of intradialytic blood pressure variability with vascular access outcomes in patients on hemodialysis. Hemodialysis International. February 7th. .

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