Factors affecting patency of dysfunctional hemodialysis vascular access

This study aimed to investigate the patency following initial successful percutaneous transluminal angioplasty (PTA) for untreated dysfunctional hemodialysis vascular access and to identify predictors of PTA durability” Kim et al (2017).

Abstract:

OBJECTIVE: This study aimed to investigate the patency following initial successful percutaneous transluminal angioplasty (PTA) for untreated dysfunctional hemodialysis vascular access and to identify predictors of PTA durability.

METHODS: This retrospective observational study included data of 132 consecutive initial PTA of hemodialysis vascular access in 126 patients who showed immediate technical and clinical success and had at least 1 year of follow-up data.

RESULTS: The mean duration of primary and secondary patency post-PTA was 16 and 27 months, respectively. On multivariate adjusted Cox regression analysis, dyslipidemia (p < 0.001), use of insulin (p = 0.016), and arteriovenous graft (AVG) (p = 0.016) were significantly associated with shorter primary patency. Dyslipidemia (p < 0.001), use of antiplatelet medication (p = 0.013) and failed vascular access (p = 0.004) were significant predictors of secondary patency loss. Use of statin was the only clinical variable associated with increased primary and secondary patency (p < 0.001). According to a subgroup analysis on the type of vascular access and dysfunction, primary and secondary patency rates were significantly higher in the arteriovenous fistula (AVF) and failing vascular access groups than AVG and failed vascular access groups, respectively. Early dysfunction (within 6 months) was significantly higher in the AVG and failed vascular access groups after initial PTA, but there was no significant difference after multiple PTAs.

CONCLUSIONS: Post-PTA primary and secondary patency rates were significantly higher with
AVF and failing vascular access. Use of statin was associated with increased primary and secondary patency after initial successful PTA in this study.

Reference: