

Kidney: Nephrology & Therapeutics

August 28-30, 2017 Philadelphia, USA

Endovascular management of immature fistulas by interventional nephrologists in Algeria

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Objectives: Percutaneous transluminal angioplasty (PTA) has proven to be valuable for management of dysfunctional fistula; KDOQI guidelines acknowledged the time and the role of interventional angioplasty for treatment of vascular access dysfunction.

Methods: Between September 2014 and March 2016, 28 dysfunctional and 2 thrombosed immature fistulas were treated by PTA and or collateral veins ligation. Angiography was performed by ultrasound guided puncture of the brachial artery and stenosis was performed after cannulation of the vein. The balloon size was between 5 to 10 mm. Collateral veins ligation was performed surgically after ultrasound marker. Thrombosed immature fistula was treated by manual catheter-directed aspiration. Dilatation induced rupture was treated by balloon tamponade and no stent was used.

Results: An underlying stenosis was diagnosed in all cases except one. 11 (36%) of them were located in the vein area (VA), 8 (26%) in the juxta anastomotic outflow area (JAOA), 4 (14%) in JAOA and in the fistula anastomosis (FA), 3 (10%) in JAOA and VA, 2 (7%) in JAOA, FA and artery stenosis (AS), 1 in JAOA with collateral vein and one only with a collateral veins without stenosis. The initial success rate of the endovascular procedure was 90%. Dilation-induced rupture occurred in five cases (16%) but stents were not necessary. The rate of significant clinical complications was 6% (pseudoaneurysm). Primary and secondary patency rates at 1 year were 50% and 70%, respectively.

Conclusions: Early Doppler ultrasound enables identification of underlying areas of stenosis or collateral veins in nonmaturing fistulas, which can be safely and effectively treated with angioplasty, vein ligation or both. With continued surveillance and repeat interventions, functional patency can be sustained in the majority of fistulas.

Biography

Mohamed Amine Rahil is an Interventional Nephrologist from Algeria. After an interventional nephrology internship in UC Davis, California, he perfected his approach of endovascular treatment for immature fistula and central vein stenosis; he also takes in charge of children and adult for PD catheter and tunneled catheter placement. He presented several communications in several international societies (Vascular access society, international society of hemodialysis) to show how nephrologists help nurses to cannulate difficult fistula by ultrasound guided needling.

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