

EARLY FAILURE OF AUTOGENOUS DISTAL ARTERIOVENOUS FISTULA DUE TO FOREARM ARTERY STENOSIS: ENDOVASCULAR TREATMENT

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INTRODUCTION

Autogenous distal arteriovenous fistula (dAVF), considered the gold standard of vascular access for haemodialysis, suffers from high rate of early failure: 10-50%. A possible cause of this complication is delayed maturation associated to forearm artery stenosis located proximally to the anastomosis. In these cases the endovascular treatment by percutaneous angioplasty, has been shown just in 2009 (*Turmel-Rodrigues and Raynaud*), to represents a helpful option to enable the maturation of these vascular access.

We describe a single-centre experience on endovascular treatment of dAVF complicated by delayed maturation associated to forearm artery stenosis.

PATIENTS and METHODS

We treated 18 patients with diagnosis of low-flow immature AVF due to forearm artery stenosis, from January 2007 to July 2014. All of them were evaluated by clinical examination and Color Doppler Ultrasound one month after the creation of the access.

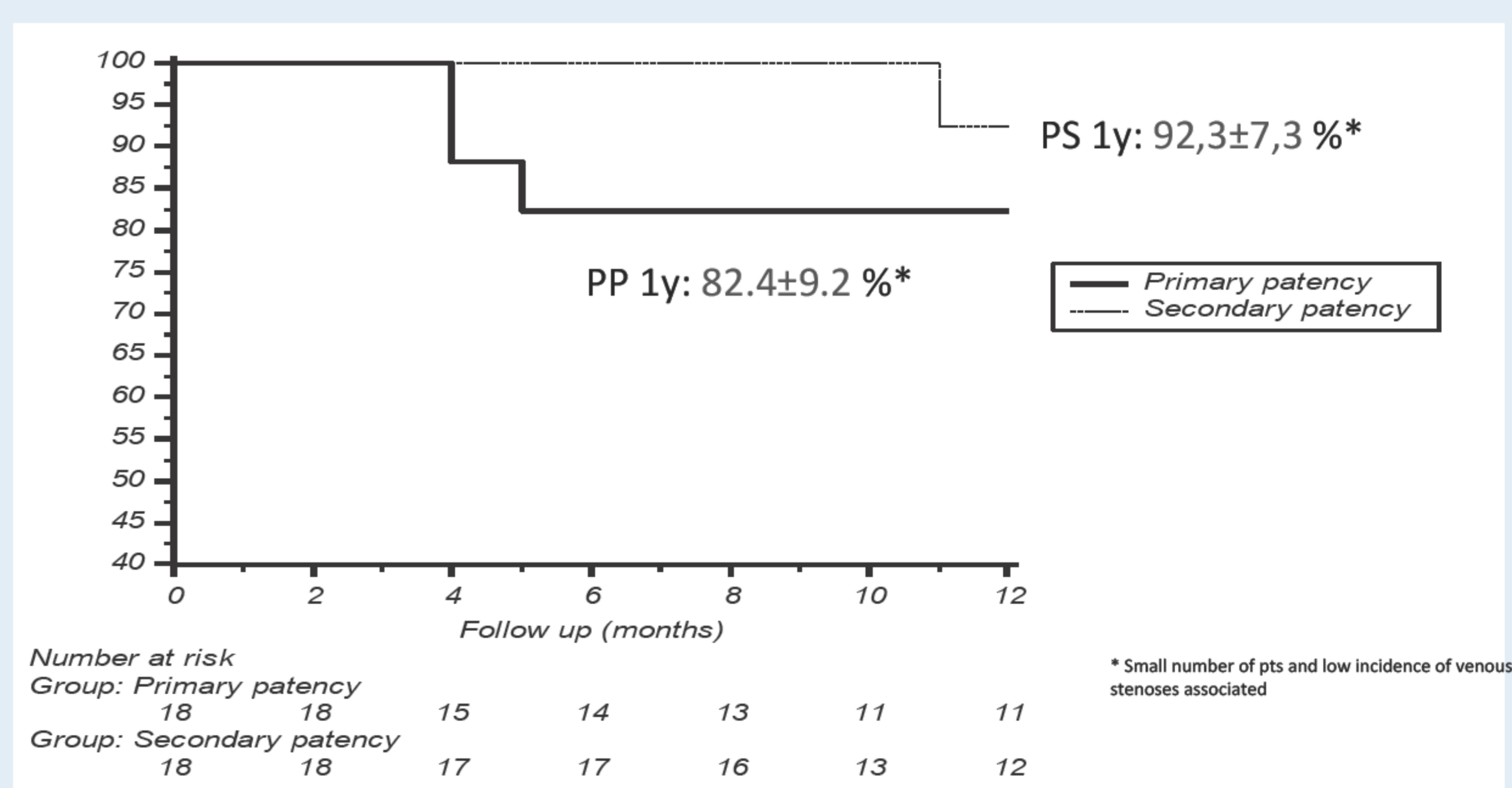
The patients characteristics are exposed in Table 1.

Patients	18 (16 M/ 2 F)
Age (years)	63.8 ± 13.5
Diabetes mellitus	14 (77.7%)
Hypertension	17 (94.4%)
Peripheral vascular disease	16 (88.8%)
Type of fistula	Radio-cephalic: 16 (88.8%) Ulna-basilic: 2 (11.2%)
Type of stenosis	Radial artery: 13(72.1%) Ulnar artery: 2 (11.2%) Radial artery and cephalic vein: 3 (16.6%)
Functional status	HD with CVC: 10 (55.5%) HD with another AVF: 2 (11.2%) CKD K/DOQI St.V : 6 (33.4%)

Table 1: Patients characteristics

RESULTS

All patients were treated with PTA alone, without stent placement and all the interventions ended with patent fistulas. Radial artery rupture occurred in two patients. This complication has been treated successfully with prolonged low-pressure balloon inflation. Mean blood flow raises from 304.1±70.5 ml/min, preoperatively, to 671.6±145.1 ml/min (p< 0,01) at one week after the procedure. One year primary and secondary patency, by Kaplan Meyer analysis, was 82,4±9,2% and 92,3±7,3% respectively.



CONCLUSION

Endovascular approach by PTA is a helpful and minimally invasive procedure for treatment of delayed maturation of distal arteriovenous fistula associated with forearm artery stenosis.