

Outcomes Of Endovascular Thrombectomy In A Tertiary Hospital In Singapore

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Introduction

Malfunctioned or thrombosed vascular access contribute to significant morbidity and mortality in patients with end stage renal disease [1]. Interventional Nephrology Suite (INS) in our center is a multidisciplinary set-up comprising of interventional nephrologists, interventional radiologists and vascular surgeons for management of vascular access issues. This study reports the outcomes of endovascular thrombectomy in our center.

Objectives

This study was an audit of the outcomes of endovascular thrombectomy performed in Singapore General Hospital (SGH) looking into success rate of vascular access thrombolysis, complications rate and 3 months primary patency rate. Secondary outcome was to determine predictors of poor access patency.

Methods

This is a retrospective review of endovascular thrombectomy for thrombosed vascular accesses between 1st March 2015 and 29th February 2016. Patient's demographics, admission data, baseline characteristics, vascular access history, procedure details and complications were collected.

Results

Characteristics, n = 193	Number (%) or mean ± SD
Age, years	63.6 ± 11.9
Gender, male	98 (50.8%)
Ethnicity, Chinese	121 (62.7%)
Time on dialysis, years	5.3 ± 3.7
Comorbid condition	
Diabetes	111 (57.5%)
Hypertension	170 (88.1%)
Ischemic heart disease	77 (39.9%)
Dyslipidemia	106 (54.9%)
Peripheral vascular disease	32 (16.6%)
Vascular Access	
Arteriovenous fistula	100 (51.8)
Age of vascular access, months	30.7 ± 31.9

Tab 1: Baseline characteristics

Outcomes, n = 193

	Number (%) or Mean ± SD
Successful intervention radiologically	186 (96.4)
Arteriovenous fistula	94 (94.0)
Arteriovenous graft	92 (98.9)
Successful dialysis post intervention	182 (94.3)
Arteriovenous fistula	92 (92.0)
Arteriovenous graft	90 (96.8)
3 months patency	102 (52.8)
Arteriovenous fistula	67 (67.0)
Arteriovenous graft	35 (37.6)
Time intervention lasted, months	3.69 ± 3.43

Tab 2: Success rate of endovascular thrombectomy

Predictors of poor patency post interventions	Adj OR (95% CI)
Access age	0.993(0.983-1.000), p=0.061
AVG vs AVF	1.594(1.063-2.390), p=0.024
Prior thrombolysis within 90 days	1.630(1.057-2.512), p=0.027

Tab 3: Predictors of poor access patency

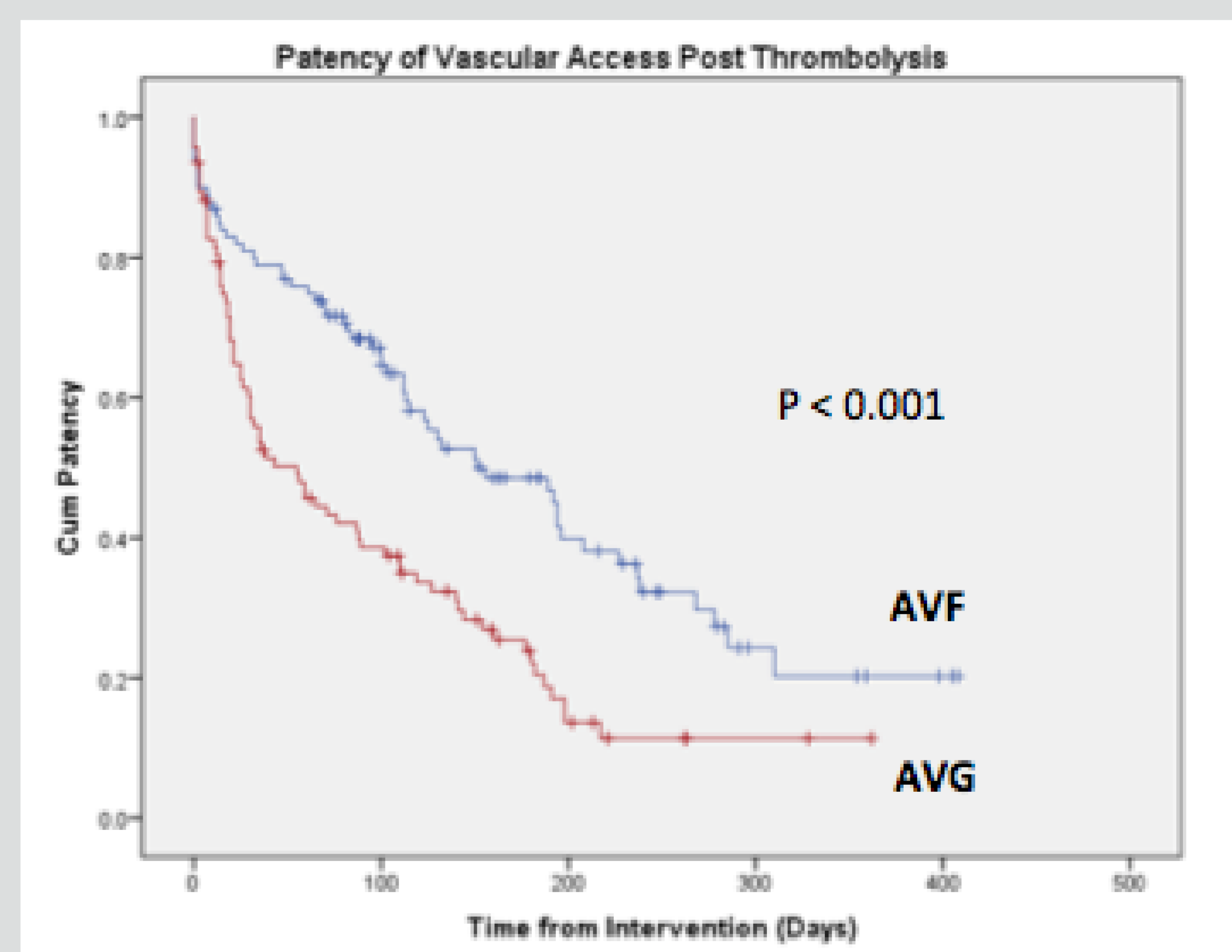


Fig 1: Patency of AVF vs AVG post thrombolysis

Conclusions

Our radiological success rate of endovascular thrombectomy was 96.4%. Predictors for poor patency post thrombectomy include AVG, thrombosed access with prior history of thrombolysis within 90 days, and access age.

References

1. United States Renal Data system: The economic cost of ESRD, vascular access procedures, and Medicare spending for alternative modalities of treatment. USRDS. Am J Kidney Dis 30:S160-177, 1997

