

18 months primary patency rate in native arteriovenous fistula in hemodialysis patients : single centre experience

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Objectives : A well functioning vascular access (VA) is essential to efficient dialysis therapy.

Native arteriovenous fistula (NAVF) provides the best access for longevity and a lowest morbidity.

First choice access is mainly distal arteriovenous fistula (DAVF), side-to-side with distal ligature; proximal arteriovenous fistula (PAVF) is used as second choice or in patients without adequate distal native vessels. Another possibility is the creation of NAVF in the middle position : midarm arteriovenous fistula (MAAVF) .

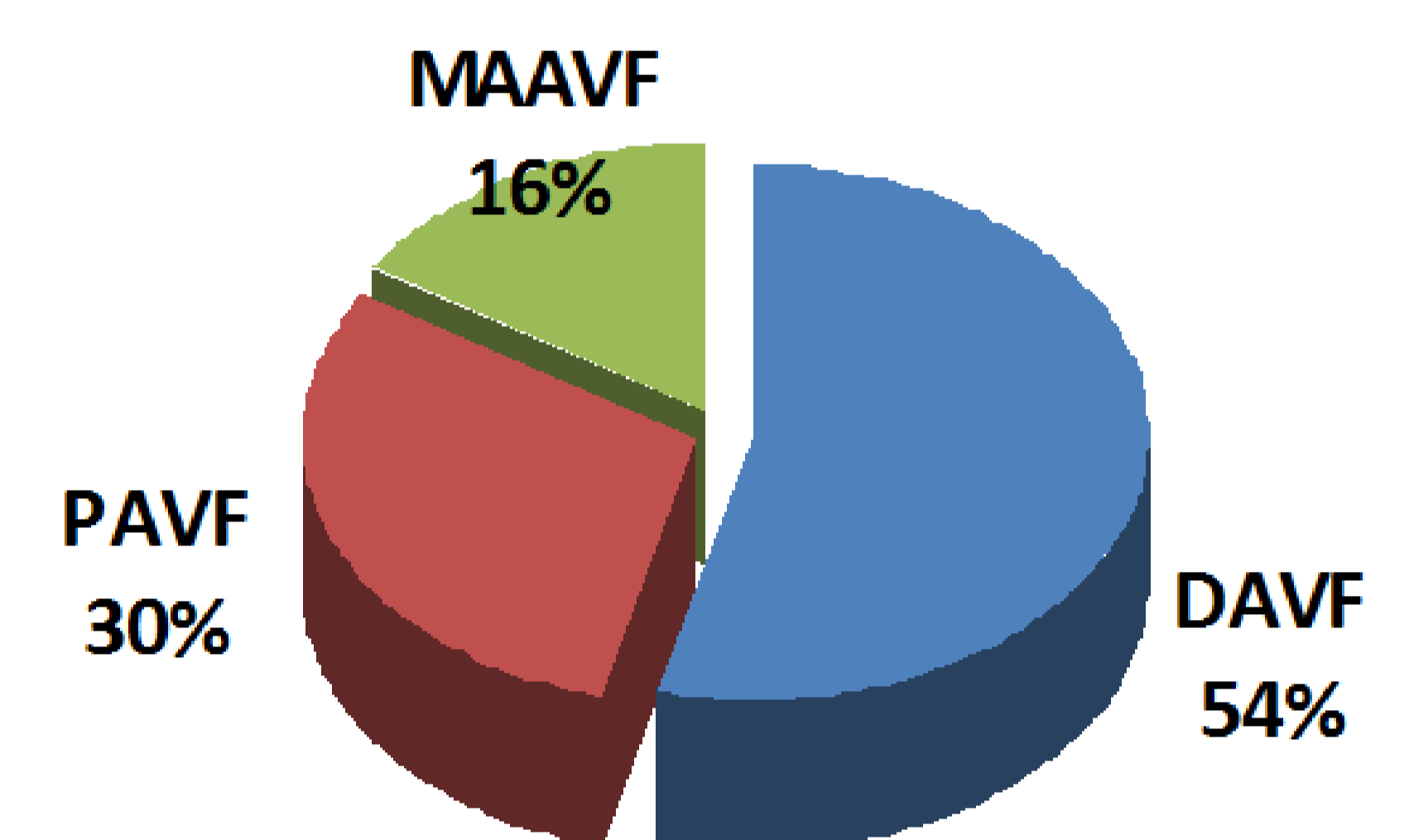
The aim of this retrospectively study is to determine the 18 months primary patency rate in our NAVF and the evaluation of MAAVF as an intermediate step before the application of PAVF.

Methods : 138 patients were recruited in our retrospectively study. Mean age was 69+/-14 years (range 29-83), 83 was male and 55 was female. No one received an anticoagulant therapy.

There was no statistically different in the distribution of diabetes and cardiovascular disease in the three groups . In all patients we have done clinical evaluation and duplex ultrasonographic (DUS) preoperative mapping of veins and arteries for a better results in creation of NAVF. All the NAVF was placed by the same interventional nephrologist and surgeon team; all surgical operations were performed under local anesthesia using lidocaine hydrochloride. Vein vasospasm was treated by mechanical dilatation.

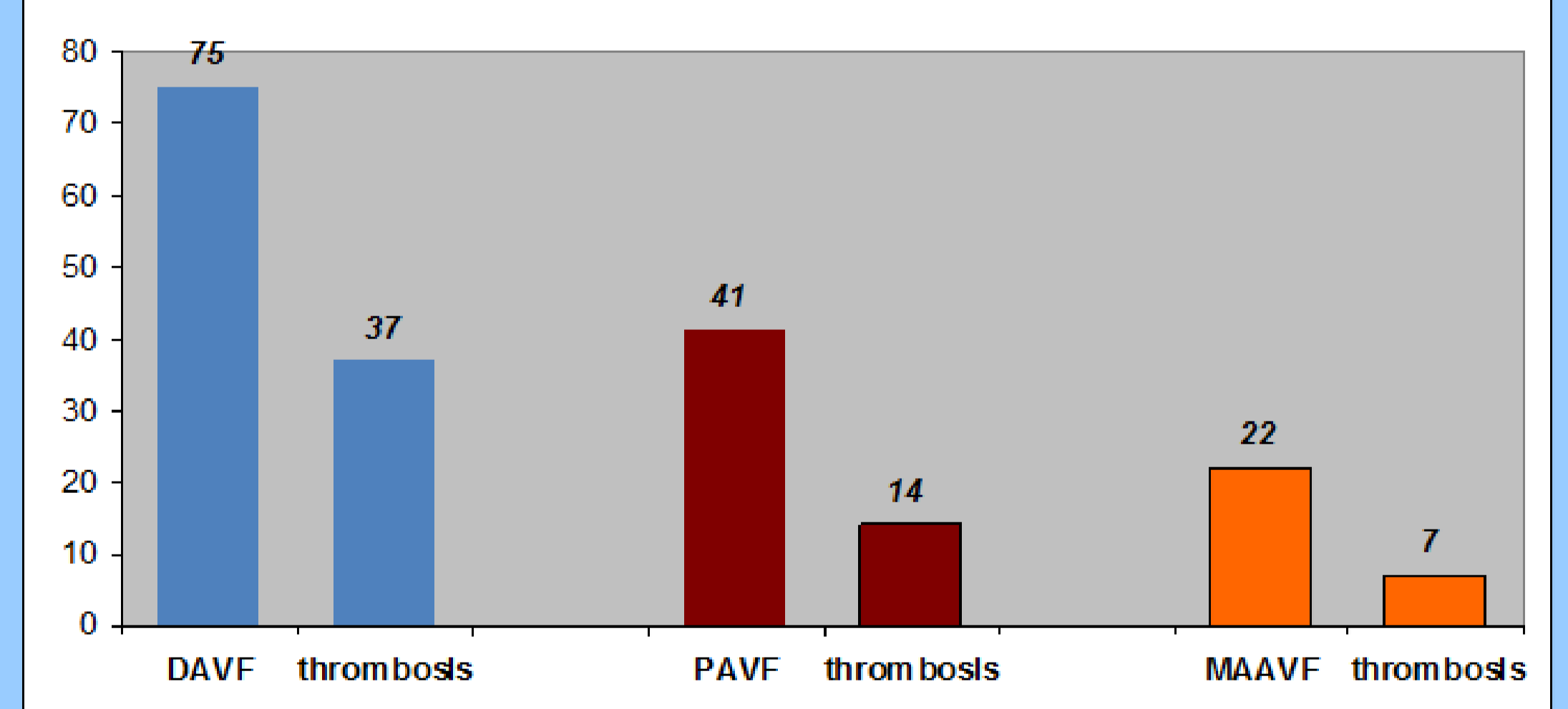
A continuous suture technique using CV-7 Gore Tex was used to create the anastomosis. Primary patency was defined as the interval from time of access placement to access thrombosis or to any intervention to maintain patency (surgical or endovascular intervention).

Vascular Access 2004-2010

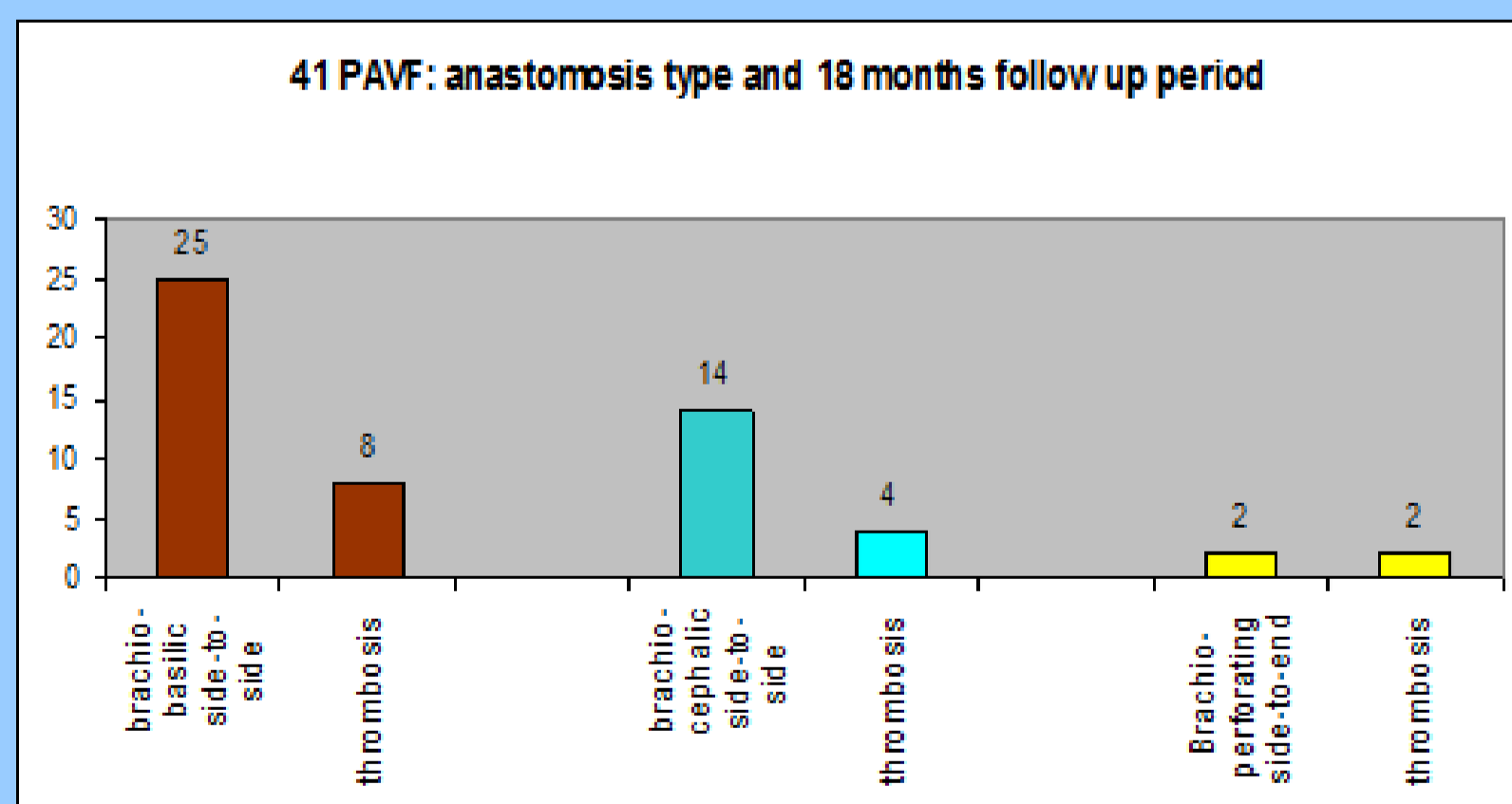


Results : In 75 patients we have placed a DAVF, in 41 patients a PAVF and in 22 patients a MAAVF. At the end of the follow up period, in the DAVF group we have observed a 50.5 % primary patency rate, in the MAAVF a 69% and PAVF, with a 90% of side-to-side brachio-basilic/brachio-cephalic anastomosis, give us a 66% primary patency rate at the end of the study.

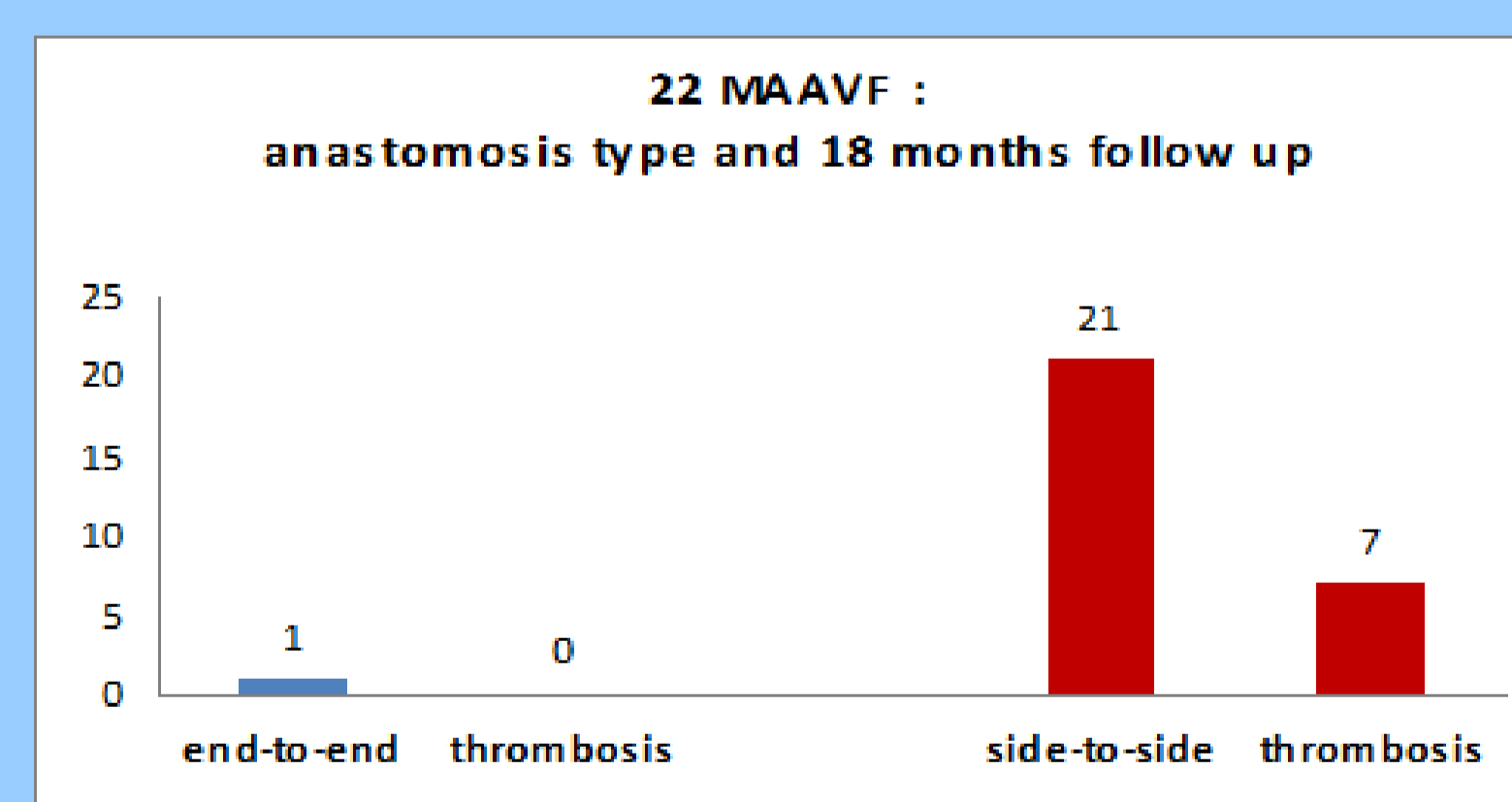
Vascular Access: 18 months follow up



41 PAVF: anastomosis type and 18 months follow up period



22 MAAVF : anastomosis type and 18 months follow up



Discussion : DAVF still remain the first choice for hemodialysis VA, but the nature of its construction makes it unfeasible for a number of patients because of the poor quality of the distal vessels: midarm and elbow NAVF are reasonable alternative when a radiocephalic NAVF is not possible. Preoperative DUS mapping of veins and arteries is necessary for better results in creation of NAVF.

At the end of the 18 months period we have observed best result with MAAVF (69% primary patency rate) that represent an interesting alternative to PAVF (66%). Follow up time in our study was limited to 18 months, extra follow up time is required to obtain further insight into long-term NAVF survival.

Native arteriovenous fistula: 18 months patency rate

