

## Clinical experience with superficial saphenofemoral arteriovenous fistulas as access for hemodialysis: late results

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### Abstract

**Objectives:** To analyze late results of clinical experience with superficial saphenofemoral arteriovenous fistulas (SSFAVF) as access for hemodialysis and their related complications.

**Methods:** From August 1998 through May 2006, 56 fistulas were performed in 48 patients at Hospital de Ensino da Faculdade de Medicina do ABC (FMABC). On eight of them, two fistulas were required. The patients were referred from the Nephrology Service and from the Center of Nephrology and Hypertension (CNH) of Hospital de Ensino da FMABC. The oldest fistula had been carried out 93 months ago, and the most recent, 2 months ago. Participants' mean age was 44.4 years. Procedures were performed in patients without option of access in the upper limbs. The surgical technique consisted of anteriorization and superficialization of the great saphenous vein, in the posterior aspect of the thigh, anastomosed to the superficial femoral artery in the distal portion. SSFAVF were assessed according to the following variables: immediate, early and late results, intraoperative complications, postoperative complications (up to the 30th day), fistula efficacy after start of punctures (facility of punctures, hemodialysis flow, spontaneous venous pressure and dialysis adequacy according to K.T/V) and inherent complications (thrombosis, postpuncture hematoma, distal limb ischemia, cardiac decompensation, puncture pseudoaneurysm, anastomotic pseudoaneurysm, aneurysmal dilatation and infection). Data analysis methods were cumulative patency, using the Kaplan-Meier method, and simple percentage for other results.

Results: All fistulas could be successfully concluded, but five were excluded from late follow-up because they were not used (deviation from study protocol). Fifty-one fistulas were used in 45 patients; six patients required two fistulas. The oldest fistula had been carried out 59 months ago, and the most recent, 3 months ago. Until May 2006, the 51 fistulas had the following course: eight fistulas remained patent (15.7%); 10 patients were transplanted (19.8%); 12 patients died (23.5%); one presented low flow (1.96%); and 20 had thrombosis (39.2%). As early complication, there was one case of severe hypotension in the intraoperative period, resulting in anastomosis thrombosis, followed by repair using Fogarty catheter, and four cases of reexploration on the first postoperative day due to venous thrombosis (two due to hematoma, one due to vein kinking and one due to saphenous vein rotation of 180°). All of these fistulas were repaired through vein thrombectomy, and anastomosis was performed again, maintaining secondary patency. Three puncture pseudoaneurysms and two stenoses due to myointimal hyperplasia were repaired using angioplasty without stent placement, maintaining assisted primary patency. There was only one death resulting from fistula complication, which occurred due to pseudoaneurysm rupture in a fistula carried out 40 months ago. In the analysis of cumulative patency using the Kaplan-Meier method, after a 59-month follow-up, probable patency was 44.04%, with standard deviation of 5.49%.

Conclusions: SSFAVF proved to be a good alternative for patients who do not have other access possibilities in the upper limbs, providing an efficient dialytic treatment, with good patency rate and low complication rate, except for thromboses.

Keywords: Arteriovenous fistula, hemodialysis, vascular accesses, saphenous vein, femoral artery.

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