Saphenous vein graft aneurysm 29 years after femoropopliteal bypass surgery

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Introduction

- The Great Saphenous Vein is most widely used conduit for lower limb bypass procedures in arterial occlusive disease – most successful and complication-free outcomes
- Late postoperative complication aneurysmal disease after infrainghinal revascularization – most common represents anastomotic pseudoaneurysms.
- A true aneurysm is an unusual complication of these revascularisatios using a reversed saphenous vein graft

INTRODUCTION

- Pat.P.N. Age: 68 y sex: male
- The pacient underwent 29 years before(1993) in another service, bypass surgery for chronic limb ischemia through obstruction of the superficial femoral artery;
- He received a saphenous vein graft in femoro-suprapopliteal position;
- Clinical status: he presented to us with a gradually increasing pulsatile tumoral mass in the superior third of the left thigh bruit present
- The pacient had no clinical distal ischaemia;
- The graft was patent (arterial Doppler ultrasound)

Clinical aspect- pulsatile tumoral mass



Diagnostic

- physical examination
- echography 2D + Doppler pulsatile swelling arising from the vein graft with thrombus present
- angioCT with endosize program reconstruction the maximal transversal diameter of the formation was 5 cm.
- angiography confirming the functionality of the by-pass and a good distality (no embolizations from the aneurismal thrombus)

Diagnostic: Angio-CT





Diagnostic: Angiography





Diagnostic: Angiography- functional by-pass





Operation technique

The patient underwent aneurysmal repair surgery:

- Excision of the vein aneurysm
- Replacement of the vein graft with a Dacron silver graft prothesis 8 mm in diameter(intergard silver- Getinge);
- Macroscopically The vein graft excised had an arterial structure and calcifications and was sent to histopathological exam;
- Intraoprativelly we observed that the anastomosis lines were intact











Histopathology

a) Alizarin red staining for calcium depositsb) H&E staining: cell nuclei a purplish blue, and extracellular matrix and cytoplasm pink.

- thickening of the adventitia and tunica media
- Degenerative changes with calcification and fibrous deposits

It can see a lot of nuclei distal to the calcification area and a few nuclei immediately proximal to the calcium deposits/aneurysmal dilatations.



Results

- Postoperative period relatively uneventfull
- postoperative suits were simple
- The patient was discharged the 5 th day after surgery with oral anticoagulation;
- Echografic control at 1, 3, 6 months and yearly after

Discussions

- We performed a search of published literature that revealed that there are not many cases in literature showing very long follow-up of femoropopliteal arterial reconstructions
- The follow-ups longer than 25 years are practically non-existent.
- In 2004, Majeski reported in his series of 207 cases of in situ saphenous femoropopliteal bypasses, identifying only 3 (1.4%) true vein graft aneurysms.

Author	Year of reporting	No. of cases	Time of presentation after bypass	<i>Insitu/</i> RSVG
Davidson et al.[11]	1972	1	3 yrs	RSVG
Szilagyi et al. ^[12]	1973	10	over 10 years	NA
De La Roche et al.[13]	1973	1	5 yrs	NA
De Weese et al.[14]	1973	3	5-6 yrs	RSVG
Vanttinen et al.[15]	1975	3	NA	NA
Friedman et al.[16]	1975	1	6 yrs	NA
Settembrini et al.[17]	1980	1	NA	NA
Denton et al.[18]	1983	1	5 yrs	RSVG
Cloud et al.[19]	1984	1	9 yrs	RSVG
Walton et al.[20]	1985	2	2.5 yrs and 9 yrs	NA
Bevers et al.[29]	1988	1	4 yrs	RSVG
Sassoust et al.[21]	1988	1	8 months	In-situ
Peer et al.[22]	1990	1	3 yrs	RSVG
Kelly et al.[23]	1990	1	22yrs	NA
Almgreen et al.[24]	1990	1	15yrs	NA
Bedirhan et al.[25]	1991	1	lyr	NA
Straton et al.[26]	1991	2	5 yrs and 2.6 yrs	RSVG
Bastounis ^[27]	1994	1	21 yrs	In-situ
Barker et al.[28]	1996	2	12 yrs and 19 yrs	RSVG
Loftus et al.[4]	1999	4	over 5 yrs	NA
Bohra et al.[30]	2001	1	22 yrs	NA
Majeski ^[31]	2004	3	3-22 yrs	In-situ
Corriere et al.[32]	2004	1	13 yrs	RSVG
Bikk et al.[33]	2006	1	9 yrs	RSVG

RVG: Reversed saphenous vein graft, NA: Not available

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Case Report / Olgu Sunumu

Saphenous venous bypass graft aneurysm following femoropopliteal bypass surgery

Femoral-popliteal baypas ameliyatı sonrası safen ven baypas greft anevrizması

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Degenerative Venous Aneurysm of a Reverse Saphenous Vein Femoral Artery to Femoral Artery Cross over Graft: Case Report and Literature Review of Saphenous Vein Graft Aneurysm

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Conclusions

- The saphenous vein graft had arterial modifications in the wall structure and can develop atherosclerotic lesions (calcifications, aneurysmal dilatations), such as native arteries do.
- A true aneurysm formation in an arterialized vein graft used for lower limb arterial occlusive disease is a rare complication
- The surgical repair with a new prosthetic graft seems to be the optimal treatment



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