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Distal hybrids for long chronic total occlusion of superficial femoral artery with severely compromised runoff

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Statement of the Problem: Over two thirds of patients with critical limb ischemia (CLI) present with superficial femoral artery (SFA) disease, often a long chronic total occlusion (CTO) with patient popliteal artery and extensive occlusive lesions in the crural vessels. We studied a series of hybrid interventions to treat this multilevel disease as an alternative to conventional approach (either bypass or PVI).

Methodology & Theoretical Orientation: A total of 33 patients (24.2% women; mean age 69.5 years), all with Rutherford class 5-6 disease, were included in the study. Angiography showed long (>200 mm) SFA CTO in all 33 cases (100%) accompanied by CTO of either all crural arteries (n=26; 78.8%) or all but the peronea (n=7; 21.2%). We performed femoropopliteal bypass with autologous vein in all patients (100%) followed by crural angioplasty done either on the same day (n=14; 42.4%) or 2-14 days later (n=19; 52.6%). Direct angiosome revascularization was achieved in 30 patients (91%).

Findings: The in-hospital complications were one death due to MI (3%); early graft failure in 2 patients (6%; both after simultaneous hybrid interventions); early major amputation in one (3%). The 1-year patency and the amputation-free survival were 66% and 75%, respectively. The 1-year healing rate was 93.4%.

Conclusion & Significance: In CLI patients with long SFA CTO and extensive crural disease a shorter bypass to a patent popliteal artery followed by crural angioplasty does not seem to increase the risk of early graft failure and provides fair long-term outcome.

Recent Publications

1. Walden R, Adar R, Rubinstein Z J and Bass A (2010) Distribution and symmetry of arteriosclerotic lesions of the lower extremities: an arterio-graphic study of 200 limbs. *Cardiovasc Intervent Radiol.* 8(4):180-2.
2. Bradbury A W, Adam D J, Bell J, Forbes J F, Fowkes F G, Gillespie I, Ruckley C V and Raab G M (2010) basil trial participants. bypass versus angioplasty in severe ischaemia of the leg (BASIL) trial: A description of the severity and extent of disease using the Bollinger angiogram scoring method and the TransAtlantic Inter-Society Consensus II classification. *J Vasc Surg.* 51(5 Suppl):32S-42S.
3. Davies M G, Saad W E, Peden E K, Mohiuddin I T, Naoum J J and Lumsden A B (2008) Impact of runoff on superficial femoral artery endoluminal interventions for rest pain and tissue loss. *J Vasc Surg.* 48(3):619-25.
4. Cotroneo A R, Iezzi R, Marano G et al. (2007) Hybrid therapy in patients with complex peripheral multifocal steno-obstructive vascular disease: two-year results. *Cardiovasc Intervent Radiol* 30:355-361.
5. Zhou M, Huang D, Liu C, Liu Z, Zhang M, Qiao T and Liu C J (2014) Comparison of hybrid procedure and open surgical revascularization for multilevel infrainguinal arterial occlusive

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disease. Clin Interv Aging 9:1595-603.

Biography

K Arshed has a MD grade in General Medicine and MS in Cardiovascular Surgery. At present he is pursuing PhD in Cardiovascular Surgery at St.Petersburg State Pediatric Medical University Department of Car-

diovascular Surgery (Ministry of health of the Russian Federation) and practicing at city hospital no.14 under the supervision of Professor A N Lipin, researching on the topic "Revascularization of lower extremities during the course of occlusion of SFA in combination with severe lesions of the lower leg arteries".

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