ENDOVASCULAR RESCUE OF 16-YEAR-OLD ILIO-FEMORAL AND FEMORO-TIBIAL BYPASSES Vincent Demesmaker, Arnaud Kerzmann, Delphine Szecel, Evelyne Boesmans, Charlotte Holemans, Vlad-Adrian Alexandrescu, Jean-Olivier Defraigne Department of Cardiovascular & Thoracic Surgery, CHU Liege, Belgium

REPORT

CASE

The treatment of peripheral arterial disease is increasingly carried out endovascularly. We report the case of a

young patient with critical limb ischemia, due to ilio-femoral and femorotibial bypasses thrombosis, treated

by different endovascular tools and techniques.

He complained of moderate rest pain and disability to walk for a few days. Computed tomography angiography showed thrombosis of both bypasses with

A 41-year-old patient was admitted with a subacute limb ischemia. He had smoking habit, diabetes and dyslipidemia. The patient had a history of gunshot wounds at the limb resulting in a Rutherford stage V peripheral arterial disease. He had therefore undergone prosthetic ilio-femoral and in situ venous femoro-tibial bypasses.

severe ostial stenosis of the deep femoral artery (images 1–2). We performed a percutaneous pharmacological thrombolysis and mechanical thrombectomy with the AngiojetTM device of both bypasses combined with a deep femoral artery stenting. Retrograde access was needed to catheterize the deep femoral artery. Immediate result was satisfying.

Nevertheless during the first postoperative day he complained of recurrence of rest pain. Computed tomography angiography revealed the reocclusion

of the femoro-tibial bypass with severe stenosis of the ilio-femoral bypass proximal and distal anastomosis (image 3). We performed a thrombectomy and atherectomy using the Rotarex[™] device of the femoro-tibial bypass combined with angioplasty of the femoro-tibial bypass distal anastomosis, stenting of the iliofemoral bypass proximal anastomosis and angioplasty of the distal anastomosis (images 4–5). One month follow–up was favorable, with no symptom and patency of both bypasses at duplex scan.

It seems well established, that in cases of acute limb ischemia (type II of the Rutherford classification), studies demonstrate comparable limb salvage

Moreover there is an advantage to pharmaco-mechanical thrombectomy vs fibrinolysis alone². The Angiojet™ technique is used more likely in fresh clot, while Rotarex[™] can also be used in more chronic occlusions³. There is relatively little comparison of the two techniques.

There is a study about effectiveness and safety in a physiological circulation model, with a slight advantage for the Rotarex[™] regarding recanalization, but with significantly more thrombo-emboli and vascular injuries⁴.

DISCI

rates between surgery and endovascular techniques with lower mortality¹, which obviously tends to prefer this technique.

This case illustrates that combination of various and complementary endovascular techniques can be useful

in patient with complex vascular history and critical limb ischemia, despite increased costs.

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Images 1 and 2: Occlusion of the ilio-femoral and femoro-tibial bypasses. Image 3: Reocclusion of the femoro-tibial bypass with severe stenosis of the ilio-femoral bypass proximal and distal anastomosis. Images 4 and 5: Recanalization of both bypasses.

References

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⁴ Rusch R, Trentmann J, Hummitzsch L, et al. Effectiveness and Safety of Percutaneous Thrombectomy Devices: Comparison of Rotarex and Angiojet in a Physiological Circulation Model. Eur J Vasc Endovasc Surg. 2020;59:983–989.