Thrombolysis of an occluded axillo-bifemoral Dacron graft bypass with tenecteplase – A case report

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INTRODUCTION AND PURPOSE:

Direct puncture of prosthetic graft is a relatively safe technique, with minimal risk of infection and hemostatic complications1, so it is an alternative access in diagnostic and, less often, in therapeutic procedures. Thrombolytic treatment with directly graft injection provides higher concentration of fibrinolytic agents at the site of thrombosis with theoretically lower rates of systemic complications2. The aim of this report was to show a successful pharmacological thrombolysis for an acute occlusion of prosthetic graft after inappropriate puncture and compression.

CASE REPORT:

A 78 years old male patient with chronic atherosclerotic aortoiliac occlusion was admitted with acute limb ischemia five days after a coronary angiography. Three months ago he was submitted to an extra-anatomical axillo-bifemoral bypass with Dacron bypass due to his severe clinical and cardial status.

Through a right brachial access, a diagnostic angiography was performed and showed a wide thrombosis involving the axillo-bifemoral Dacron bypass and the proximal portions of the femoral arteries (figure 1). At this time, pharmacological thrombolysis was indicated and a multiperforated catheter was inserted distally into the graft for tenecteplase solution retrograde injection (0.5 mg/Kg acute bolus and 0.1 mg/Kg/h continuous injection for 12 hours, following literature protocols3). Concomitant heparin solution was administered during the procedure to avoid rethrombosis. No clinical complications occurred, except for a small hematomas at the puncture site. Also no significant hemodynamic or laboratorial (hemoglobin, fibrinogen and partial thromboplastin time) variations were seen.

After infusion, prolonged due to residual thrombus in the first angiographic control (figure 2), complete dissolution of the thrombus resulting in satisfactory blood flow through the graft and adequate perfusion of the limbs were seen (figure 3).

The patient recovered uneventfully and was discharged on the third day after the procedure.

DISCUSSION:

Successful pharmacological thrombolysis is possible in approximately 90% cases involving femoral prosthetic grafts. On the other hand, reocclusion in often4. The best result are in cases of acute ischemia5.

Hemorrhage complications are common, but thrombolysis showed a high limb savage rate (96%) associated to minor bleeding complications (18%) and less amputation (1%)6. Leak or anastomotic dehiscence during thrombolysis, although rare, are more common in early postoperative period (3 weeks)7,8.

Higher patency and lower risk of bleeding complications are seen with intra-arterial use of recombinant tissue plasminogen activators (rTPA)9. Thrombolysis was significantly increased when combining mechanic agents, resulting in reduced time and dose of rTPA10.

CONCLUSION:

Pharmacological thrombolysis is a feasible technique to repair prosthetic graft occlusion, with no major hemorrhagic complications.