



CASE REPORT

Post-traumatic femoropopliteal pseudo-aneurysm in a patient allergic to heparins



Carla Lorena Blanco Amil*, Carolina Gallego Ferreiroa, Eduardo Fraga Muñoz, José Manuel Encisa de Sá

Vascular and Endovascular Surgery Department, Hospital Álvaro Cunqueiro, Vigo, Spain

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PALAVRAS-CHAVE

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Pseudoaneurisma pós-traumático;
Abordagem posterior;
Alergia à heparina

Abstract Post-traumatic pseudo-aneurysms of the femoral artery are a rare complication. They normally have iatrogenic causes and immediately appear. Less often, they appear at a later stage and are related with traumatism, orthopaedic surgery, bone lesions, infections, etc.

This report presents a case of a patient with allergy to heparin, and pseudo-aneurysm of the superficial femoral artery and 1st portion of the popliteal artery secondary to remote trauma in an extremity with serious deformities as a sequel. We performed conventional surgery using a posterior approach, and obtained a satisfactory outcome and evolution.

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Pseudoaneurisma femoropoplíteo pós-traumático em doente alérgico às heparinas

Resumo Os pseudoaneurismas pós-traumáticos da artéria femoral são uma complicação rara. Normalmente têm causa iatrogénica e aparecem de imediato. Menos frequentemente surgem numa fase tardia e costumam estar relacionados com traumatismos, cirurgia ortopédica, lesões ósseas, infeções, etc.

Este artigo apresenta o caso de um paciente alérgico à heparina com pseudoaneurisma da artéria femoral superficial e primeira parte da artéria poplíteia, secundário ao traumatismo remoto de uma extremidade com sérias deformidades como sequela. Realizamos cirurgia convencional com abordagem posterior e obtivemos um resultado e evolução satisfatórios.

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* Corresponding author.

E-mail address: karlal48@hotmail.com (C.L. Blanco Amil).

Introduction

Post-traumatic pseudo-aneurysms of the femoral artery (FA) are a rare complication. The most common etiologies are iatrogenic punctures.¹ Nevertheless, there are cases that arise gradually causing pseudo-aneurysms at a later time. In these cases we should perform a differential diagnosis for other possible causes.²⁻¹⁰ The most common clinical expression appears immediately in the context of percutaneous procedures. They appear as pulsatile masses with ecchymosis near the puncture. This is accompanied by symptoms arising from compressing adjacent structures. When they appear later in time, they are generally asymptomatic. They are diagnosed incidentally or due to complications appearing from local compression, distal embolization, thrombosis or rupture. The therapeutic approach is similar to that used for atherosclerotic aneurysms at this level. Even though open surgery remains the treatment of choice, endovascular repair is becoming increasingly used due to its low morbidity and mortality and good patency.

We report a case of a patient that presented a femoropopliteal pseudo-aneurysm in a severely deformed limb with multiple cutaneous grafts, chronic osteomyelitis and complete paralysis of the external sciatic nerve as a sequel of a remote trauma. In addition he presented allergy to heparin, detail that made change our therapeutic attitude.

Case report

We present the case of a 53-year-old male with a previous history of allergy to neomycin, hypertension, and dyslipidemia. The patient had quit smoking 4 years earlier. The patient had suffered a traffic accident 25 years before causing a supracondylar fracture of the right femur, open fracture of the tibia and fibula with secondary acute ischaemia. The patient needed stabilization of the tibia and fibula with a Hoffmann external fixator and osteosynthesis of the fracture using Kirschner needles. Another health centre performed this. The arterial reconstruction was unknown and needed multiple skin grafts to cover it. As a sequel, the patient suffered complete paralysis of the external sciatic nerve and chronic osteomyelitis of the tibia.

The patient was admitted to our service for a pulsatile lump, located on the inner face of the right thigh. This had appeared 18 months earlier and had increased in size. The clinical picture was accompanied by occasional discomfort in the limb and at the level of the lump; but without affecting the quality of ambulation. On physical examination we palpated a pulsatile lump on the inner face of the right thigh. This lump was about 7 cm in length. The patient presented coldness in his foot, with slowed venous-capillary refilling, and on vascular exploration, he presented a femoral pulse, but absence of popliteal and distal pulses. The severe deformity of the limb after trauma with multiple cutaneous grafts is highlighted (Fig. 1).

The computed tomography angiography (CTA) revealed a roughly 76 mm diameter pseudo-aneurysm of the distal superficial femoral artery (SFA), with mural thrombus and internal calcifications. The popliteal artery was difficult to see due to bone fixation material artefacts. The

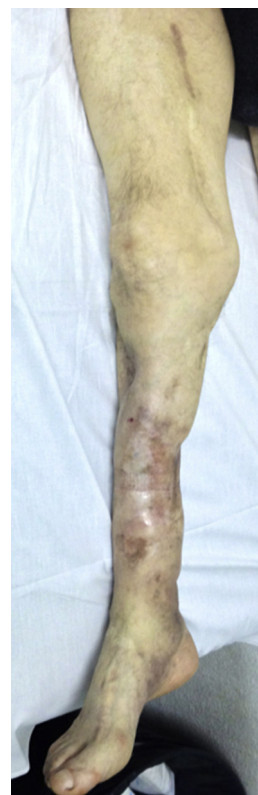


Figure 1 Severely deformed limb with multiple previous fractures, cutaneous grafts, chronic osteomyelitis and complete paralysis of the external sciatic nerve as a sequel of a remote trauma.

tibioperoneal trunk (TPT) was permeable with a peroneal artery as the only distal vessel. The anterior and posterior tibial arteries were occluded from the beginning (Fig. 2A, B).

Among the various therapeutic options, we initially chose placing a Viabahn® endoprosthesis since it is the less aggressive choice in a greatly deformed extremity (fractures, previous surgery, grafts, etc.). However, 4 days after admission, the patient suffered an allergic reaction to low molecular weight heparin (LMWH). We performed allergy tests (prick tests and intra-dermoreaction), which proved negative in the immediate reading and positive at 48 h for sodium heparin, enoxaparin, Fraxiparine, and bemiparin and negative for Fondaparinux. We diagnosed the patient for delayed hypersensitivity reaction to sodium heparin and LMWH except for Fondaparinux.

Due to this diagnosed allergy, we discarded Viabahn® endoprosthesis placement, since this contains a heparin coating, and opted for surgical treatment. We decided to carry out a diagnostic arteriography (Fig. 2C, D) in which we observed pseudo-aneurysm of the SFA and 1st portion of the popliteal artery, occlusion of the 2nd portion, and repermeabilisation of the 3rd portion. The TPT was permeable with outflow from the peroneal artery as the only exit vessel.

Considering the serious limb deformity and previous surgeries, we decided to use a posterior approach to the popliteal artery. We performed the pseudo-aneurysm resection and a bypass from the SFA to the 3rd portion of the popliteal artery with the inverted contralateral great saphenous vein (GSV) (Fig. 3A–C). During the procedure, we

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