

Serous Fluid Leakage without Seroma after Aortobifemora Bypass Operation

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Perigraft seroma and serous fluid leakage is an uncommon clinicopathologic entity. Serous leaks and/or seroma formation from dacron grafts have been reported in peripheral arterial anastomoses. We present a case of serous fluid leakage without seroma which developed after aorto-bifemoral and femoro-popliteal bypass. (Ann Thorac Cardiovasc Surg 2002; 8: 54–55)

Key words: perigraft seroma; aorto-bifemoral bypass

Introduction

Polytetrafluoroethylene and dacron grafts are useful in peripheral arterial occlusive disease surgery as well as systemic-to-pulmonary shunt operations. A rare complication of using dacron materials is serous fluid leakage and/or localized seroma formation around the graft.^{1,2} Perigraft seroma is a specific clinicopathologic entity, which is a collection of clear, sterile fluid, confined within a nonsecretory fibrous pseudomembrane surrounding a vascular graft.³ We present a case of fluid leakage without seroma formation, which developed after aorto-bifemoral and left femoro-popliteal bypass operation.

Case Report

A 59-year-old male patient, was admitted to our clinic with the complaint of bilateral intermittent claudication in the lower extremities. Angiographic studies revealed the presence of total occlusion in the terminal aorta and left superficial femoral artery. The operative procedure included aortobifemoral bypass with an 8 × 16 mm collagen-coated dacron graft and left femoro-popliteal bypass with an 8 mm collagen-coated dacron graft (Interguard™ knitted collagen coated polyester vascular prosthesis, Intervascular™ Datascope Corp. Laciostat,

Cedex, France). In femoro-popliteal bypass, we could not use the saphenous vein because of varicose dilatations. Drainage from drains ceased on the second postoperative day and the drains were removed. On the fourth postoperative day, serous drainage from abdominal, femoral and popliteal incisions occurred. Biochemical study of the fluid showed serous characteristics. Microbiological studies were negative. There was no leukocytosis or hyperthermia. Peripheric blood smear was normal. Abdominal ultrasonography revealed no seroma formation. Serous leakage continued for about 6-7 weeks after the operation. During this period, the patient was kept in the hospital with multiple wound dressings and antibiotic therapy. On the postoperative fourth week we injected oxytetracycline to the tissues around the graft at the calf but drainage did not stop. On the postoperative eighth week, the patient was discharged with no drainage and distal pulses were present.

Discussion

Perigraft seroma and/or serous fluid leakage is uncommon.^{3,4} Few individual surgeons have reported more than four cases.³ The great majority of seroma and leakage occur around dacron and PTFE grafts although a small number of non-porous grafts have also been affected. There is also a low incidence of Perigraft seroma around deeper-sited constructions.⁵ Biochemical similarities with serum have encouraged most workers to regard seroma fluid as an ultrafiltrate of blood.⁴ The overall impression of a poorly incorporated graft bathed in an ultrafiltrate of blood has encouraged rival aetiological theories. Faulty graft incorporation may be due to a humoral fibroblast

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inhibitor that prevents maturation and proliferation of perigraft fibroblasts,⁶⁻⁸⁾ or a specific immunological reaction may be mounted against the graft.⁹⁾ Alternatively, abnormal graft porosity may be caused by a number of factors, including trauma, soilage by lipophilic molecules or possibly by variation in quality control at the time of graft manufacture.³⁾ Spontaneous resolution occurs in approximately 65 percent of selected cases.³⁾ Seroma and fluid leakage are commonly painless but stretching of the overlying skin can cause discomfort and erythema which may indicate impending ischemic ulceration. There is no evidence that perigraft seroma or serous leakage is primarily infected.⁹⁾

The principal approach to a seroma or serous leakage should be observation only.³⁾ The efficacy of plasmapheresis, designed to eliminate a humoral fibroblast inhibitor may be an alternative therapy.^{7,8)} Local excision of the seroma, including the fibrous capsule, may lead to skin necrosis, graft infection, graft thrombosis and recurrence of the seroma.³⁾ Reexploration and/or replacement of the graft with dacron or PTFE is also an alternative to therapy.^{10,11)}

In our case, we preferred observation. Antibiotic therapy and albumin replacement according to the biochemical data were given to the patient. Serous fluid leakage without perigraft seroma ceased on the postoperative seventh week in our case. We used collagen coated dacron grafts. Because these grafts are safe materials for porosity, the cause of the leakage in our case may be hypersensitivity to the graft material rather than ultrafiltration.

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