SHORT REPORT

Pets and Arterial Prosthetic Grafts

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Introduction

In patients with infected aortic grafts mortality rates ranges from 25–75% and the amputation rate is about 30%. Many of these cases present years after graft implantation. Such late graft infections may be caused by dormant low virulence organisms or by secondary inoculation.1,2 This report describes a case of late infection of an aortic graft with Pasteurella multocida, a common infection agent of animal origin.

Case Report

Seven years after having an aortobifemoral by pass graft inserted an 81-year-old cat owner presented with left leg ischaemia. An angiogram verified an occlusion of the left limb of the graft. She had a temperature of 38.4 °C, white blood cell count (WBC) 14.4 × 10⁹/L and C-reactive protein (CRP) 220 mg/L. After admission she had a moderate hematemesis. Gastroscopy showed a pulsating ulceration in the duodenum. A CT scan visualised a 5 × 6 cm abscess in the left psoasregion, including the left limb of the graft (Fig. 1). Intravenous infusion of cefuroxime and methronidazole was started and the patient underwent an operation with removal of the aortobifemoral graft, suture of a duodenal fistula and bilateral polytetrafluoroethylene axillopopliteal grafts. Cultures from the blood, the graft and the abscess revealed growth of P. multocida. The antibiotic treatment was changed to intravenous administration of ciprofloxacin and methronidazole. Body temperature was normalised 5 days after the operation and initiation of the antibiotic treatment. Two weeks after surgery the intravenous antibiotic treatment was changed to oral penicillin. Mobilisation was uneventful and the patient was discharged 5 weeks after the operation with antibiotic treatment continuing for several months.

Discussion

Microorganisms harboured in pets are a potential source of human infection. The predominant infection agents are P. multocida, Staphylococcus aureus and Streptococcus viridans. In patients having foreign implants, transfer of pathogens from animals includes an additional risk of colonisation of the implant. Two cases of colonisation of prosthetic vascular implants by P. multocida have previously been reported.3,4 The present case had a long history of iterated minor traumata by her cat which may indicate that a cat was the source of her P. multocida infection. Other implants colonised by P. multocida have also been demonstrated. Predisposing factors for infection are linked to various immunocompromising conditions5 although no such factor was apparent in the present case. Pasteurella multocida is sensitive to penicillin. Third generation cephalosporins also offer good coverage, as do tetracyclines, trimethoprim/sulphamethoxazole and fluoroquinolones.

The reports of late infections of arterial prosthetic grafts due to secondary inoculation of microorganisms suggests prophylactic antibiotic therapy after animal bites in patients with implants. In immunocompromised patients it should be mandatory. Concerning the drug of choice penicillin should be appropriate. Larger wounds from the animal are not an obligatory prerequisite. Licking and small scratches, with risk of
transferring pathogens, are an everyday occurrence in many devotees of cats and dogs. This should call for thorough information to pet-owners with foreign implants about the risk of infection.

References


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Fig. 1. A 5 × 6 cm abscess in the left iliac fossa, with the occluded left limb of the graft medial to the abscess.