Proportionibacterium acnes causing perivalve abscesses

Sir.—Dr Horner and colleagues described their experience with a rare case of Propionibacterium acnes endocarditis associated with an aortic root abscess. We have recently seen a similar case of prosthetic mitral valve endocarditis with operative evidence of healed perivalvular abscesses and were impressed by certain features common to both cases which are worthy of comment in this rare infection.

A 57 year old woman was admitted to hospital with severe mitral regurgitation and suspected infective endocarditis in August 1992. In 1981 she had undergone mitral valve replacement with a Starr-Edwards prosthesis for rheumatic heart disease. In 1991, eighteen months before admission she had developed progressive dyspnoea and a cough accompanied by a raised erythrocyte sedimentation rate and a mitral regurgitant murmur. One month before admission she also experienced weight loss. Five sets of blood cultures produced a growth of Propionibacterium acnes. The patient was clinically stable, but before valve replacement was undertaken satisfactory control of sepsis was desired. Valve replacement was deemed necessary because of the degree of regurgitation observed from this prosthesis. The organism isolated was susceptible to penicillin, ampicillin, vancomycin, and erythromycin and was less susceptible to rifampicin and ciprofloxacin. Minimum inhibitory concentrations were 0·5 mg/l, 0·12 mg/l, 2·0 mg/l, 1·0 mg/l, 2·0 mg/l, and 2·0 mg/l respectively. Thus treatment with benzyl penicillin and gentamicin was started with the aim of later elective valve replacement. The fever resolved but despite satisfactory serum gentamicin concentrations, symptoms of dizziness developed after three weeks' combination therapy.

Benzyl penicillin alone (2 MU every four hours) was given until elective replacement of the mitral valve prosthesis was performed a week later. At operation, there were multiple tracts around the original prosthesis and, when it was removed, evidence of healing perianular abscesses with some vegetations. Cultures of the vegetations and prosthesis were sterile. The patient continued to receive benzyl penicillin 2 MU every four hours with the addition of probenecid 500 mg twice daily during convalescence on the ward. Peak and trough serum bactericidal titres were 1/8 and <1/2 respectively. Also, several blood cultures obtained when penicillin concentrations were expected to be at their lowest were negative, just before the penicillin doses proved to be sterile. However, after three weeks, a classic rash of penicillin allergy developed which necessitated a change in antibiotic therapy to vancomycin. This was continued for a further three weeks with regular monitoring for therapeutic serum concentrations—giving a total of six weeks postoperative intravenous antibiotic therapy. The patient remains well to date.

This case illustrates the typical nature of endocarditis caused by a low grade pathogen—with a relatively long history and minimal signs of infection. In a study of antibiotic prophylaxis, 22 of 60 patients receiving conventional fluocxacillin/aminoglycoside prophylaxis for cardiac surgery had propionibacteria retrieved from the extracorporeal blood reservoir at completion, so contamination is potentially common but infection is rare. Could this infection have been present for 10 years before presentation? The case supports the opinion that perivalve abscess, a more common complication of prosthetic than native valve endocarditis, is not necessarily associated with more virulent microorganisms. Therefore, if the clinical response to optimum antimicrobial therapy is poor or other signs of uncontrolled sepsis are observed, the diagnosis of abscess formation should be suspected even in endocarditis caused by a low grade pathogen. It is noteworthy that healing of the perivalvar abscesses was progressing with four weeks' treatment with intravenous antibiotics in our patient. There are no guidelines on the amount and length of antibiotic therapy that are necessary after removal of an infected prosthetic valve by us, like Horner et al, continued this for six weeks. Fear of recurrent infection leads to antibiotic therapy being prolonged. This has important consequences in terms of side effects, toxicity, and cost. Only experience can guide management.

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