

SHORT CASES IN CARDIOLOGY

A case of osteomyelitis secondary to endocarditis

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A 64 year old man was admitted because of 3 weeks of backache, malaise, and night sweats. Six years earlier he had had the aortic valve replaced by a homograft because he had severe aortic regurgitation caused by childhood rheumatic fever.

He was pyrexial (40°C) with a soft ejection systolic murmur. The lumbar spine was tender but clinical examination was otherwise unremarkable. The haemoglobin was 12.2 g/dl, white cell count $28 \times 10^9/l$ (86% neutrophils), erythrocyte sedimentation rate 115 mm/h, and C reactive protein 190 mg/l. The aortic homograft seemed normal on echocardiography with no evidence of aortic regurgitation or vegetations. Radiographs showed degenerative disease of the spine, which was especially pronounced at the level of the first and second lumbar vertebrae (L2 and L3) (figure) and the back pain was ascribed to this.

Infective endocarditis was diagnosed and treatment with intravenous antibiotics was started (benzylpenicillin and gentamicin). Blood cultures later grew a penicillin resistant *Staphylococcus epidermidis* and flucloxacillin was substituted for benzylpenicillin. Because the back pain persisted a bone scan was performed. This confirmed osteomyelitis of L2 and L3. Fusidic acid was added to improve bone penetration and gentamicin was stopped.

On day 14 emergency aortic valve replacement was carried out because of acute, severe aortic regurgitation and teicoplanin was added to the regimen. His postoperative recovery was uneventful and after a total of 2 months of intravenous treatment he was discharged on a 3 month course of flucloxacillin and fusidic acid by mouth. Radiographs of the lumbar spine showed less degeneration 2 months later and he was well more than 2 years later.

The association between osteomyelitis and infective endocarditis is well recognised. Up to 6% of all patients with infective endocarditis have osteomyelitis.¹ Non-specific musculoskeletal symptoms, however, are even more common, occurring in up to 44% of patients with infective endocarditis.¹ We suggest that any patient with endocarditis and localised bone pain that is severe or protracted should be investigated to exclude osteomyelitis. Plain radiographs can remain normal for up to 8 weeks after the onset of osteomyelitis.² If the radiographs prove to be normal we suggest that a bone scan should be performed because a diagnosis of osteomyelitis can be



Plain radiograph (lateral view) of the lumbar spine showing extensive degenerative disease with anterior bridging osteophytes at the level of L2 and L3.

excluded if the bone scan is normal.³ We propose that patients with infective endocarditis and osteomyelitis should be treated with intravenous antibiotics for at least 6 weeks and with antibiotics by mouth for 3 months or longer to sterilise bony foci and prevent recurrence.

- 1 Churchill MA, Geraci JE, Hunder GG. Musculoskeletal manifestations of bacterial endocarditis. *Ann Intern Med* 1977;87:754-9.
- 2 Waldvogel FA, Vasey H. Osteomyelitis: The past decade. *N Engl J Med* 1980;7:360-8.
- 3 Adatepe MH, Powell OM, Isaacs GH, Nichols K, Cefola R. Hematogenous pyogenic vertebral osteomyelitis: diagnostic value of radionuclide bone imaging. *J Nucl Med* 1986;11:1680-5.

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