

A pagetic elderly lady with back pain

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Abstract

An elderly lady suffering from Paget's disease presented with severe back pain after sustaining a fall. The rise in inflammatory markers and poor response to analgesics led to the diagnosis of septic disease that was confirmed by MRI. A high index of suspicion for septic disease is necessary in elderly patients presenting with back pain and an associated rise in inflammatory markers.

Keywords: back pain, septic discitis, Paget's disease, inflammatory markers, elderly

Introduction

Back pain occurs in 50–80% of the general population [1] and is reported by 25% of people aged over 65 years [2]. Common causes of back pain in the elderly are spondylosis and osteoporotic complications. Rarer conditions affecting the vertebral column including Paget's disease can complicate the clinical picture.

Case report

A 70-year-old independent lady with a history of Paget's disease and treated breast carcinoma, presented with fast atrial fibrillation. She was anti-coagulated and cardioverted with intravenous (peripheral line) amiodarone. She sustained a fall while in hospital, hitting her lower back. X-rays of the lumbosacral spine showed spondyloarthritic and Pagetic changes for which she was given i.v. pamidronate, in view of persistent back pain. This infusion had to be stopped because of severe rigors. The patient remained afebrile though a full blood count revealed a leukocytosis (13.6×10^9). She was discharged home in a stable condition, but was readmitted two days later with severe lumbosacral pain.

On examination, she was tender at L1–5 levels with reduced straight leg raising, absent knee and ankle jerks, and downgoing plantars. Pain control was difficult to achieve even with opiates. She developed a chest infection complicated by severe pulmonary oedema, necessitating i.v. inotropes and tazobactam/piperacillin.

Blood investigations revealed leukocytosis (14.8×10^9 /l), anaemia [Hb 9.5 g/dl, mean corpuscular volume (MCV) 91.9

fl] and acute renal failure (creatinine 384 μ mol/l). Serum protein electrophoresis was non-specific. Although urinalysis was indicative of infection, this was not supported by urine culture. *Staphylococcus aureus* (SA) was cultivated from two blood culture bottles and this was resistant to tazobactam/piperacillin. As the patient's clinical condition was improving at the time, it was decided to continue the same antibiotic for 14 days. In view of persisting back pain, a bone scan was performed which revealed polyostotic Paget's disease. A low-grade fever was then noted, accompanied by a rise in inflammatory markers (ESR 137 mm, CRP 74 mg/dl). Serial blood cultures were negative. No i.v. cannula site infection was noted.

Magnetic resonance imaging (MRI) of the thoracolumbar spine showed marked enhancement at the L4/5 level suggestive of discitis, in addition to Paget's disease and severe degenerative disc disease (Figure 1). A disc biopsy was not technically possible.

The patient was started on i.v. clindamycin and ciprofloxacin 12 weeks after initial presentation with back pain. Antibiotics were changed to oral fucidic acid and doxycycline after 10 days in view of difficult venous access, and were given for a total of three months.

Inflammatory markers returned to normal and the patient could walk with a rollator frame though remaining dependent.

Discussion

Septic discitis is a rare condition with an incidence rate of 2–10 cases per 500,000 per year [3, 4]. The case presented



Figure 1. Sagittal T2-weighted MRI image showing marked enhancement at L4/5 (arrow) indicative of septic discitis on a background of diffuse Paget's disease and spondylotic changes. Epidural extension of the disc at this level results in severe canal stenosis.

is the first one to report discitis co-existing with Paget's disease of the spine. This dual pathology has led to a significant delay in diagnosis. A similar delay was quoted by McCain *et al.* [5] whilst, in the review carried out by Legrand *et al.* [6], the mean time from symptom onset to diagnosis was 39.6 ± 39.8 days. The diagnosis was established using MRI which is the investigation of choice [7–11]. Plain radiographs of the spine are not diagnostic of discitis in the early stages of infection [7, 8], but may show soft tissue swelling (2–3 days) followed by a periosteal reaction (7 days) and bone destruction (10 days). CT scanning is useful for confirming remission with treatment [9]. Isotope scanning, is non-specific for discitis [4].

Culture of the causative organism by CT-guided biopsy of the pyogenic source should always be aimed for, as well as obtaining serial blood cultures and urine cultures. SA is the commonest organism identified and the lumbar spine is most commonly affected. Sources of infection include i.v. cannulation, urinary tract infection and bacterial endocarditis. In this case this was probably a hospital-acquired infection possibly due to i.v. cannulation. In the absence of randomised controlled trials the optimal management of pyogenic discitis is not established [6]; however, an algorithm on diagnosis and treatment was proposed by Leal *et al.* [12].

Key points

- Back pain is a common complaint in the elderly population that can be mostly attributed to spondylosis or vertebral fractures related to osteoporosis. Conditions like Paget's disease complicate the clinical picture.
- Discitis remains a frequently delayed diagnosis which must be actively excluded.
- In the presence of persistent back pain and high inflammatory markers, with or without fever, combined with recent

admission to hospital associated with invasive procedure, vertebral pyogenic infections should be seriously considered. (See Appendix 1 in the supplementary data on the journal's website <http://www.ageing.oxfordjournals.org>.)

- A Staphylococcus-positive blood culture associated with raised inflammatory markers should lead to a careful and repeated search for endocarditis and discitis as complications.
- MRI is the investigation of choice in diagnosing septic discitis.

Supplementary data

Supplementary data for this article are available online at <http://ageing.oxfordjournals.org>.

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