Delayed diagnosis of vertebral osteomyelitis
(12HDC00618, 14 May 2015)

Emergency Department ~ ED consultant ~ Sports physician ~ Vertebral fracture ~ Orthopaedic referral ~ Vertebral osteomyelitis ~ Paraplegia ~ Rights 4(1), 4(2), 4(5)

A 59-year-old woman made a series of visits to her family doctors' clinic, a physiotherapist, and a regional public hospital Emergency Department (ED) owing to increasing thoracic back pain. The woman's GP referred her to a private sports physician. The sports physician overlooked reviewing abnormal blood test results contained in the referral, and did not perform a neurological examination of the lower limbs. He referred the woman for a bone scan. The bone scan results suggested a recent collapse fracture of T9.

The woman presented to the ED six days after the bone scan, owing to ongoing thoracic back pain. The woman had no motor sensory deficit, no incontinence, and no fever. The bone scan result was noted, and blood tests and a plain X-ray were done. The X-ray suggested a wedge-type compression fracture of T9. The woman was moved to the ED observational area (EDOA) overnight, for repeat blood tests and review the next morning. An ED consultant assessed the woman. His notes were brief. The ED consultant assumed that a blood test result (raised C-reactive protein) was due to the fracture. The ED consultant did not request, or discuss, an orthopaedic review, despite the test results and being aware of a draft referral guideline that indicated that a referral to the orthopaedic team was warranted in the woman's circumstances. The woman was discharged that afternoon. The ED consultant did not document any discharge or follow-up instructions.

Three days later the sports physician reviewed the woman. His notes do not refer to the woman's presenting symptoms, visit to ED, or his examination findings. He reviewed the bone scan results, gave some thought to other pathology, and referred the woman for an MRI. He did not request further blood tests or record in his differential diagnoses any specific consideration of infection.

The woman presented to the ED for a third time 10 days later. She had no numbness in her lower limbs, and no saddle paraesthesia, and her reflexes were intact. The woman was moved to the EDOA. The MRI was performed the following morning. The findings were suspicious of vertebral osteomyelitis with a fracture of T8 and T9 vertebral bodies, as well as retropulsed fragments, cord compression, and an abscess.

The radiologist telephoned the ED consultant at the time of the scan to discuss the interim findings. The ED consultant did not document all of the MRI findings in the ED record. The ED consultant called the orthopaedic team but did not relay all of the MRI findings to the orthopaedic registrar on call.

The registrar on call reviewed the woman and discussed the case with senior orthopaedic staff, including a consultant orthopaedic surgeon, proceeding on the basis of the incomplete information supplied. The consultant orthopaedic surgeon reviewed the MRI but did not review the written interim MRI report. A CT biopsy and aspiration was completed, and IV antibiotics commenced. Later that day, the woman developed sudden signs of neurological compromise, considered to be an acute paraplegia at T9. A second orthopaedic surgeon was contacted and urgent transfer

was arranged to another hospital for tertiary level care and surgery. Sadly, imaging confirmed a collapsed infected vertebrae and compromise of the woman's spinal cord.

Adverse comment was made about the sports physician's care and treatment, in particular that he did not adequately review the referral information received from the GP, did not undertake a neurological examination of the woman's lower limbs, and did not specifically consider infection as part of a differential diagnosis. His clinical documentation was also suboptimal.

The ED consultant breached the Code in the following respects: Right 4(1) for failing to adequately review the woman and failing to discuss the woman with the orthopaedic team and refer her for an orthopaedic review despite his awareness of referral criteria and the woman's symptoms; Right 4(2) for failing to document vital MRI clinical findings in the ED record, and failing to document his discussions with the consultant radiologist and orthopaedic registrar; and Right 4(5) for failing to bring crucial information regarding the results of the MRI to the attention of the orthopaedic team.

Adverse comment was made about the first orthopaedic surgeon not pursuing the written interim MRI report given the complex nature of the case. Adverse comment was made about a senior house officer, for not ordering blood tests.

The DHB did not have a formalised ED to Orthopaedics referral policy in place at the time of the events. Concern was raised at the degree of collaboration and information sharing between the departments, which lead to suboptimal co-operation and continuity between specialty services. Accordingly, the DHB breached Right 4(5).