

## Lesson of the Week

# Spinal fracture and paraplegia after minimal trauma in a patient with ankylosing vertebral hyperostosis

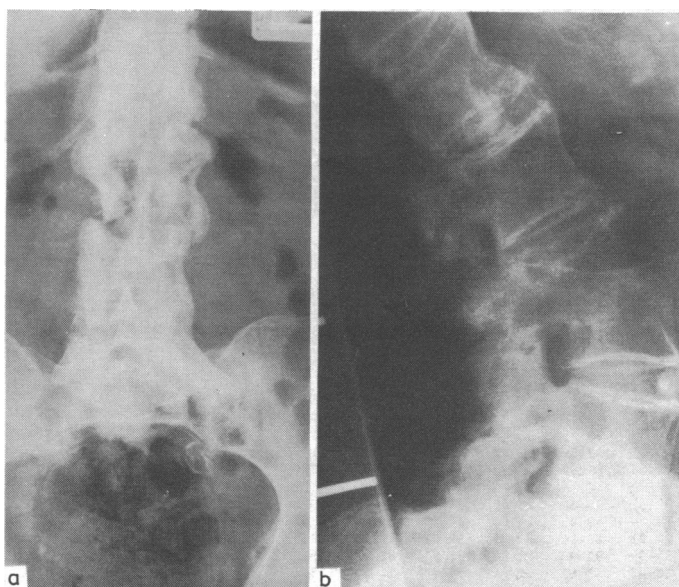
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The rigid ankylosed spine of ankylosing spondylitis is prone to fracture, often after minimal trauma.<sup>1</sup> The resulting fractures tend to be unstable and are likely to be complicated by damage to the spinal cord.<sup>1,2</sup> The cervical spine is the most frequent site of fracture of the spine in ankylosing spondylitis, though fractures may be seen at all levels.<sup>2</sup>

In ankylosing hyperostosis of the spine (Forestier's disease) spurs form on the vertebral bodies. This may be seen on radiographs as undulating calcification bridging intervertebral spaces and gives the appearance of ankylosis in advanced cases. Gross limitation of spinal movement is unusual, however, even in advanced cases.<sup>3,4</sup> A patient with definite radiological features of ankylosing vertebral hyperostosis suffered a spinal fracture that was complicated by paraplegia.

### Case report

A 71-year-old woman weighing 105 kg, with a long history of diet-controlled diabetes mellitus, fell in her bathroom. She had no history of back pain or other features of rheumatic disease. She complained of some tenderness over the lumbar spine and sacrum and had a small scalp laceration. Neurological examination was normal, and no bony injury was found. She



Radiographs showing an unstable displaced fracture of the upper lumbar spine. (a) Anteroposterior view; (b) lateral view.

**Spinal fracture may occur after minor trauma in patients with ankylosing vertebral hyperostosis and result in neurological problems**

walked to the toilet (with the help of a Zimmer frame) on the evening that she was admitted but was later unable to get out of bed, having developed severe low back pain. Examination at this time showed "stocking" anaesthesia of the right leg, and complete paraplegia rapidly ensued. Radiographs showed an unstable displaced fracture of the upper lumbar spine (figure) and gross features of ankylosing hyperostosis of the lumbar spine.

She was treated conservatively with traction. Her condition steadily deteriorated, however, and she died of broncho-pneumonia eight days after admission.

### Discussion

The radiological examination of the spine in this patient showed the classical features of ankylosing hyperostosis.<sup>3,4</sup> The lumbar spine appeared to be ankylosed, though there was no clinical evidence of previous immobility of the lumbar spine. The spinal fracture was of the "long bone" type, which typically occurs in the rigid spine of ankylosing spondylitis.<sup>5</sup> The fracture occurred after relatively minor trauma, and the neurological signs developed some time after the injury. Both of these features—minimal trauma and delayed occurrence of neurological damage—are typical of spinal fractures complicating ankylosing spondylitis<sup>1</sup> and may make the diagnosis of these fractures difficult. A delayed diagnosis may result in severe neurological damage. The possibility of a fracture must be considered in cases of severe ankylosing vertebral hyperostosis and the patient should be managed initially as though one is present unless this can be confidently excluded.

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### References

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