

Case 37 Back injury



Figure 37.1

A construction worker aged 40 years fell off some scaffolding about 6 m from the ground. He landed on his feet (he was wearing heavy boots), onto the grass verge and lay collapsed. He complained to his mates of severe pain in his back and pointed to his upper lumbar region as the site of this. An ambulance soon arrived; the paramedics immediately established that he was fully conscious and that he could move both legs normally. He was carefully transferred to a stretcher and transported to hospital.

What is the obvious thing to have in mind when you, as the casualty officer, go to assess this patient?

Obviously he has sustained a severe lower back injury. Check if there is evidence of neurological damage. Is there a vertebral fracture and are there any other injuries?

The casualty surgeon removed the patient's boots and socks and confirmed that he had full motor power in the lower limbs and no sensory loss. With the help of the nursing staff, the patient was undressed to allow for full assessment. There was localized bruising, marked tenderness and a slight wedge deformity to detect at the thoracolumbar junction.

What other injuries must be excluded when a patient has fallen on his feet from a height?

From below upwards, the patient may have fractured the calcaneus, fractured through the neck of the talus (sometimes with backward dislocation of the body of the talus), or sustained fractures at the ankle or the tibial or femoral condyles. In this patient, there was no clinical evidence of injury to the legs.

The patient was transferred to the radiology department where anteroposterior and lateral X-rays were taken of the thoracolumbar spine (Fig. 37.1).

What does the lateral dorsolumbar X-ray show?

A wedge fracture of the 12th thoracic vertebra. The adjacent disc spaces are normal and there is no forward displacement of T12 on the L1 vertebral body. This is therefore classified as a stable injury of the vertebral column.

What type of fracture is likely to produce a spinal cord or spinal nerve root injury, and why is this risk greater in cervical spine fractures than in dorsolumbar injuries?

- An unstable fracture with forward or lateral displacement of the spine is likely to produce a spinal cord or spinal nerve root injury.
- There is a much closer fit of the cervical spinal cord within the cervical part of the vertebral canal compared with the greater space for the conus of the spinal cord (which terminates usually at the level of the first lumbar vertebra) and the cauda equina in the thoracolumbar region.

How should this patient be treated?

The patient is nursed in bed to allow the associated soft tissue injury to heal. During this time, general physiotherapy is used to keep up joint mobility and muscle exercise. This is followed by exercise and active mobilization.

If the fracture is unstable but without spinal cord or nerve root involvement, how is the thoracolumbar vertebral fracture treated?

Operative reduction and plate fixation.