TRAUMA CASE OF THE WEEK

Case Eight

A 62 year old woman was involved in a high speed motor vehicle crash out in the wheat belt. She has been transferred to our hospital for management of a displaced tibia and fibula fracture. On a thorough reassessment in ED, prior to be being moved to the ward, she complains of pain and has tenderness in her mid lumbar spine.

- Describe the abnormalities on her lumbar spine Xray’s
- Explain the mechanism of this injury
- What are important considerations in her ED treatment?

The Xray shows what is known as a “Chance” fracture (named after the surgeon who first described it). The fracture line is easier to discern on the lateral image. The abnormalities lie at the L3 level.

The anterior border of the vertebral body is compressed in comparison to the posterior, there is a fracture line that extends almost horizontally through the body, and the fracture line continues through the posterior elements (pedicles and laminae). On the AP image the fracture is harder to see but there is marked separation of the fractured parts of the pedicles, and of the spinous processes above and below the fracture. Most are at T12-L2.

The Chance fracture is a horizontal shearing injury caused by violent de-acceleration, in this case probably around a poorly fitted lap belt. The de-acceleration/shearing disrupts all 3 spinal columns (anterior bodies, posterior bodies & posterior elements) and so is an unstable injury. Once recognised this must be treated as an unstable injury with application of full spinal precautions. Only log roll these patients with extreme care.

Chance fractures have a high association with significant intra- abdominal injuries (pancreas/aorta/bowel perf/mesenteric injuries) so check particularly carefully for these. Subsequent management will be full characterisation of the injury by CT scanning and the likely need for surgical reduction and immobilisation.