Scapulothoracic dissociation following blunt trauma

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DESCRIPTION

An adult man was thrown from his motorcycle after colliding with a car at 30 mph. He presented to the emergency department with a gross soft tissue swelling around the shoulder and abnormal sensation in the right arm, forearm and hand.

Radiographs demonstrated a lateral third clavicle fracture and lateral deviation of the scapula (figure 1). The scapula usually articulates with ribs 2–7; the loss of this overlap is the key radiographic abnormality. The diagnosis was confirmed by measuring the distance between the medial border of the scapula and the midline of the spine on a non-rotated anteroposterior chest radiograph; the unaffected side is measured for comparison.¹ The normal ratio should not exceed 1.07 ± 0.04 .²

This patient's neurological changes indicated the need for a prompt MRI of the cervical spine and

shoulder to investigate for neurovascular damage. He was found to have a multiple-level neuropraxia that resolved spontaneously following surgical stabilisation of the fracture dislocation. There was no vessel damage.

Scapulothoracic dissociation is a serious and potentially limb-threatening injury caused by high-energy trauma to the shoulder girdle. The classical description of this injury is a triad of musculoskeletal, nerve and arterial damage.¹ Brachial plexus and subclavian artery damage are very common; sequelae can include early amputation and death.³ The severity of this condition is classified by the extent of neuromuscular compromise.³ This patient was fortunate—his injury was of Damschen Grade I severity (musculoskeletal injury alone). Injury with neurological impairment is classified as Grade IIB.

Figure 1 Anteroposterior radiograph of the affected shoulder.

Learning points

- ▶ Scapulothoracic dissociation is a potentially devastating injury that requires prompt specialist review.
- ▶ Damage to the subclavian artery and brachial plexus is common.
- ▶ Diagnosis is confirmed by comparing scapular displacement from the midline with the contralateral side on a non-rotated anteroposterior chest radiograph.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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