

A case of shoulder girdle and chest trauma

Sir,

A 45-year-old construction worker was brought to the hospital after a large, heavy reversing road excavator knocked him face down. One of the rear wheels of the machine ran over the back of his shoulders, upper chest, right forearm and upper arm, missing his head, neck and lower chest. Despite the severe injuries, he had the presence of mind to roll away before the front wheel also could run over him. He was never unconscious and sustained no injuries to other parts of the body. On examination, he was found to be conscious, alert, acutely dyspneic, and in severe pain, but able to give a clear history of the accident. Pulse 88 beats/min, blood pressure 130/78 mm Hg, respiration 28/min. His external injuries were: abrasions on the back of the chest, swelling of the right shoulder and deformity of the right sterno-clavicular joint and deformity of the right forearm and elbow. Vascular and neurological examinations of the limb were normal. Chest: The respirations were labored and air entry diminished in all zones, with no adventitious sounds. The heart sounds were normal. There were no signs of intra-abdominal injury. The blood count, blood urea nitrogen and serum electrolytes were within normal limits. Initial blood gases revealed hypoxia (pO₂ 76.2 mm Hg) with mild CO₂ retention (pCO₂ 45.8 mm Hg). Blood grouping and cross matching were carried out. Radiographs showed: Right shoulder: comminuted 4-part fracture of the head of the humerus, comminuted fracture of the scapula not involving the glenoid, and dislocation of the right sterno-clavicular joint. Left shoulder: comminuted fracture of the neck and blade of the left scapula. Right elbow: displaced fracture of the lateral epicondyle. Right forearm: displaced mid-shaft fracture of the radius. Chest: multiple rib fractures and bilateral sub-total hemo-pneumothoraces. There was no pericardial effusion. Trachea and mediastinal structures were normal. Abdominal computerized tomography was normal. The patient's injuries were categorized as Grade III according to the Abbreviated Injury Scale.¹ Immediate resuscitation was undertaken as follows: Oxygen by mask, central venous pressure line, intravenous analgesia and fluid replacement, bilateral 6th intercostal space chest tubes with underwater-seal drainage. His general condition and blood gases remained stable. The displaced fractures of the lateral epicondyle of the right humerus and that of the right radius were operated on under general anesthesia and internally fixed the day after admission. The fracture of the right humeral head, the dislocation of the right sternoclavicular joint and both scapular fractures were

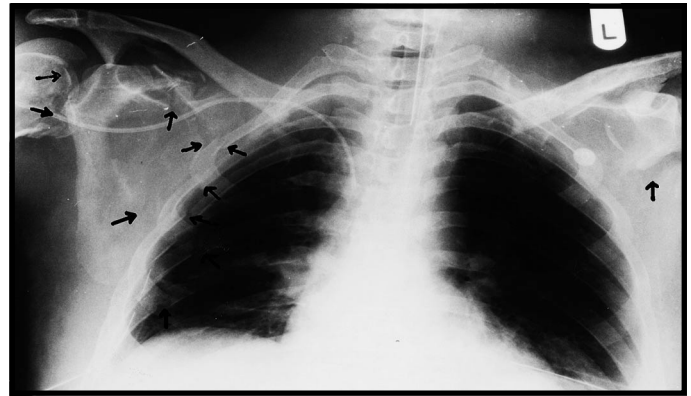


Figure 1 - Chest radiograph: Arrowheads indicate fracture sites of ribs, right and left scapulae and right humeral head.

treated conservatively. Daily chest physiotherapy was performed and the patient gradually improved. The chest drains were removed on the 5th day. At the time of his discharge on the 25th day, he could abduct both shoulders to 90°, flex to 90°, internally and externally rotate to 10°. He was followed up in the out patient department. Two months after the injuries, the patient gained full range of movements in the left shoulder and the right shoulder actively abducted and flexed to 100°, mainly due to scapulo-thoracic excursion.

This case is remarkable for 3 reasons: Firstly, it represents a case of the rather freakish survival of a severe crush injury to the chest and shoulder girdle caused by heavy machinery. Secondly, bilateral scapular fractures are rare. They are usually the consequence of electrocutions.²⁻⁵ Thirdly, comminuted fractures of the humeral head are uncommon and usually reported in the elderly. Schai et al⁶ in their report of 93 comminuted fractures stressed the importance of the type of fracture determining the mode of treatment; 4-part fractures requiring a primary prosthetic replacement of the humeral head, whereas 3-part fractures may be openly reduced and internally fixed or treated conservatively. Our patient was treated conservatively with good functional result similar to that reported by Zyoto et al.⁷ Finally our patient illustrates the importance of early accurate assessment of multiple crush injuries and critical attention to ventilatory, analgesic and other supportive care. Surgical intervention played a secondary and relatively minor role.

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Authors: A. Al-Fares, H. Mailibary
Institute: King Abdul-Aziz University Hospital, Jeddah, Kingdom of Saudi Arabia
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Abstract

Facioscapulohumeral muscular dystrophy is a very rare disease. We believe that this is the first case reported in Saudi Arabia. An 18-year-old male patient presented with weakness and asymmetrical involvement of the face and shoulder girdle muscles. His intelligence was impaired and he had left eye proptosis.