Manubriosternal joint dislocation in contact sport

M Smith, B Lenehan, D O’Keefe, A Martin

Abstract
A 17 year old man developed chest pain and shortness of breath immediately after a scrummage while playing rugby football. A lateral chest radiograph showed a dislocated manubriosternal joint, with no associated injuries. This has not been previously reported in a sporting setting. This injury should be considered in flexion-compression injury of the thorax. (Emerg Med J 2001;18:488–489)

Keywords: sport; manubriosternal joint dislocation

Case report
A 17 year old man presented to the accident and emergency department, complaining of chest pain exacerbated by movement and shortness of breath. He had been playing rugby football, and felt something “pop out” during a scrummage. When packing down on the right side of the front row, he went below his opposite number, and was pushed from behind by his second row, sustaining a flexion-compression injury of the thorax/neck (his neck flexed forward forcibly—his chin impacting on his sternum).

On examination, he was tachycardic (HR 100) and hypertensive (182/100), O₂ saturation was 99%.

His shortness of breath, resolved with analgesia. There was a tender, hard step deformity over the manubriosternal joint (MSJ). Marked kyphosis was noted. No other injuries were obvious. Examination of the cardiovascular system was normal as was the electrocardiogram.

Creatinine phosphokinase was raised at 202 (normal<195), myoglobin normal, troponin I raised at 0.05 (normal 0.0–0.03) suggesting a cardiac contusion.

A lateral chest radiograph (fig 1) showed dislocation of the MSJ. Frontal chest film and cervical spine radiographs were normal. He was given supplemental oxygen, pain relief, and was observed for 24 hours. No reduction was attempted. He has been advised to avoid contact sport in the short-term and is being followed up at regular periods with lateral chest radiographs and clinical examination.

Discussion
This is the first reported case of traumatic MSJ dislocation in sport, and only the third in history with no associated rib fractures.¹ ²

Figure 1  Lateral chest radiograph showing dislocation of the manubriosternal joint.
found two cases of thoracic and cervical spinal injury associated with manubriosternal dislocation.

Arrhythmias requiring medical management are problematic, Gouldman finding 61% of patients having a rhythm other than sinus at presentation. Myocardial contusion should be routinely sought by serial 12-lead ECGs and bedside troponin tests.

1 Cameron HU. Traumatic disruption of the manubriosternal joint in the absence of rib fractures. J Trauma 1980;20:892.
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