

Article: A Case of a Twisted Heart Due to Blunt Trauma

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Dear Sir,

Dr Poh et al are to be congratulated on their successful management of "A case with a broken heart from blunt trauma" reported in the Singapore Medical Journal 2002; Vol 43(8):423-5. I would like to present a case of a "twisted heart" secondary to blunt trauma. A 22-year-old male was involved in a high-speed motor vehicle accident with blunt trauma injuries to the right chest. Initial chest x-ray was unremarkable but, three hours later, he became dyspnoeic and developed features of left tension pneumothorax with hypotension and raised jugular venous pressure. A left chest drain was inserted with no significant improvement of his symptoms. Chest X-ray (Fig. 1) showed herniation of the heart into the right pleural cavity with pneumomediastinum and bilateral pneumothoraces. He therefore underwent emergency right thoracotomy. The heart had completely herniated through a large pericardial defect measuring 12 cm by 8 cm and was found to be rotated on an axis formed by the inferior vena cava and the great vessels, giving rise to features of cardiac tamponade. The heart was relocated back into the pericardial cavity with immediate improvement of the haemodynamic status of the patient. The defect was repaired and the patient had an uneventful recovery.

Pericardial rupture secondary to trauma occurs mainly on the left side^(1,2) with resultant hypotension as a result of strangulation of the ventricular walls by the edges of the pericardial sac. In a retrospective series of 20,000 patients admitted to a level I trauma centre, 59 patients were found to have pericardial rupture⁽¹⁾. Isolated pericardial rupture was seen in only 17 patients (<0.1%). In a collective review of 142 patients with pericardial rupture, Clark et al⁽²⁾ reported an overall mortality of 25%. In another series⁽¹⁾, a mortality rate of 64% was reported. Associated injuries of the heart have been reported to occur in 23 to 28% of patients with pericardial injuries^(1,2). Most of these consist of chamber rupture.

In this particular case, a chest radiograph was diagnostic. Once recognised, treatment is relatively straightforward with either direct suture or patch repair of the pericardial defect. A high index of suspicion is always required in the management of patients with multiple trauma.

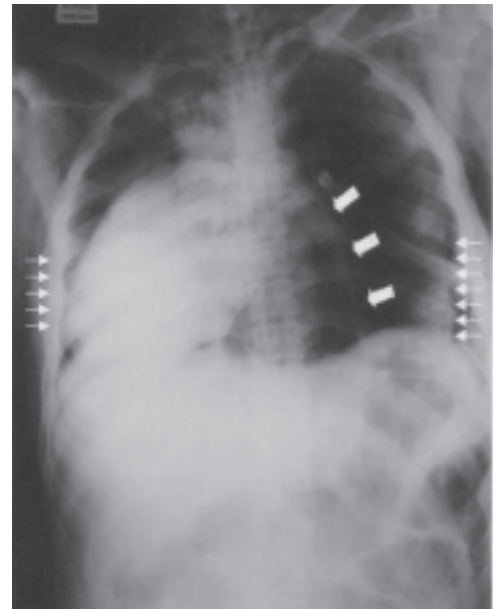


Fig. 1 Chest X-ray showing herniation of the heart into the right pleural cavity with small arrows showing bilateral pneumothoraces. Large arrows delineate the pneumopericardium.

REFERENCES

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2. Clark DE, Wiles III CS, Lim MK, Dunham CM, Rodriguez A. Traumatic rupture of the pericardium. *Surgery* 1983; 93:495-503.

Yours sincerely,

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