Massive haemothorax always focuses attention to the chest and intrathoracic causes of haemodynamic instability. If such injuries are not recognised in the emergency room, potential for survival is limited.

A 45 year old male was admitted to the emergency department. He was an unrestrained passenger in a motor vehicle crash. On admission, he was haemodynamically unstable, and resuscitation according to Advanced Trauma Life Support guidelines started. He was tachypnoeaic (25 breaths/min) and subcutaneous emphysema was present over the chest. Chest radiography revealed four rib fractures and haemothorax on the left side, with five rib fractures on the right. Chest tubes were inserted on both the left and right, and orotracheal intubation was necessary because of respiratory insufficiency. Ultrasound on admission could not detect any free intraperitoneal fluid. The left thoracostomy tube drained an initial volume of 1200 ml fresh blood, and continued to produce about 200 ml/5 min (fig 1). Despite aggressive fluid therapy, the patient’s haemodynamics deteriorated, and the patient was transferred to theatre. At operation, 3000 ml blood was aspirated from the left hemithorax. There was a 4 cm tear in the diaphragm. The uninjured

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Diaphragmatic injury remains a difficult diag-
nnosis in the multiply injured patient, and this
case shows that it can profoundly change the
clinical presentation of a common injury, such
as splenic trauma. Whenever haemodynamic
instability is present, consideration of potential
diaphragmatic injuries should not defer prompt
and adequate treatment.
2 Morgan AS, Flanbaun L, Esposito T, et al. Blunt injury to
the diaphragm: an analysis of 44 patients. J Trauma

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Basal skull fracture with intracranial air

R S Moore

A 49 year old man was brought to the accident
and emergency department with a Glasgow
coma score of 10 and bleeding from his right
ear. A convergent squint was evident from
inturning of the right eye. His head had been
inadvertently crushed between a metal trolley
and a wall. There were no other injuries. After
resuscitation according to Advanced Trauma
Life Support guidelines, radiography of his
cervical spine demonstrated free air around the
spinal cord (fig 1). The basal skull fracture with
intracranial air was duly confirmed a short
time later with bone windows on computed
tomography (fig 2). The patient made a slow
but uneventful recovery after a period of obser-
vation with antibiotic prophylaxis. He retains a
minor squint.

This case highlights the value of a standard-
ised approach to the management of major
trauma and the need to be vigilant for the
unusual when looking at any x ray film. Intra-
cranial air after head injury has been the subject
of medical reports since 1884 and was
initially thought to be rare, but Briggs drew
attention to the problem, highlighting an inci-
dence of 0.2% in all head injuries.4 Orebaugh
and Margolis later placed the incidence as
between 0.5% and 1%. The majority of these
cases involved injuries to the face and gave rise
to cerebrospinal fluid (CSF) rhinorrhoea. The

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1) Radiograph of the cervical spine; the arrows
indicate the air as a dark streak.

2) Computed tomography of the head showing the
fracture (thin arrow) and free air (thick arrow).
Splenic herniation causing massive haemothorax after blunt trauma.

J J De Waele and F E Vermassen

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