

Spontaneous pneumomediastinum and ecstasy abuse

G I Quin, G M McCarthy, D K Harries

A 25 year old man attended the accident and emergency department complaining of anterior pleuritic chest pain. Fourteen hours previously he had ingested three ecstasy tablets and danced for several hours. There was no history of trauma or vomiting. Clinical examination suggested pneumomediastinum and this was confirmed on chest radiography (fig 1). The patient was admitted and, in view of the possibility of oesophageal perforation, was kept nil by mouth and started on intravenous fluids and antibiotics. Gastrograffin swallow was normal. He was observed for four days and remained well throughout. After discharge, he experienced no further problems.

While the source of our patient's pneumomediastinum remains unclear, the benign clinical course and normal upper gastrointestinal contrast study lessen the likelihood of oesophageal perforation. The temporal association of ecstasy ingestion and subsequent pneumomediastinum, while not proving causation, certainly raises the possibility of a link between the two, especially in view of other case reports. Pittman and Pounsford report a case of pneumomediastinum in a patient who, after ecstasy ingestion, blew a whistle for eight hours.¹ Levine *et al* report on a similarly intoxicated patient who developed a pneumomediastinum after an episode of vomiting.² In the absence of repeated valsalva manoeuvres or vomiting, we conclude that the nature of the physical exertion accompanying ecstasy intoxication led to the causative barotrauma.

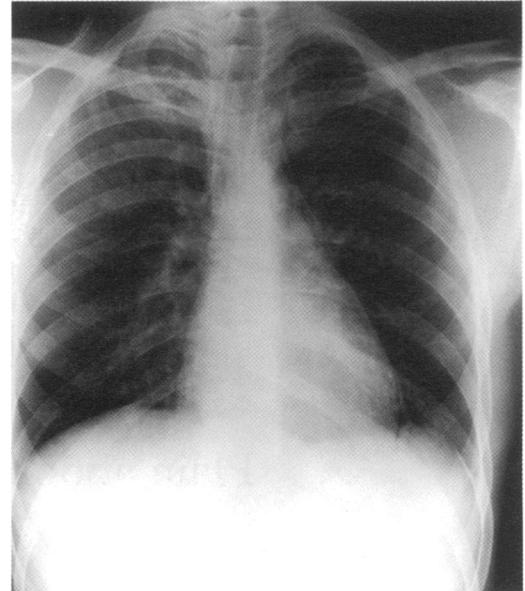


Figure 1 Radiography showing pneumomediastinum and left infraclavicular subcutaneous emphysema.

Spontaneous pneumomediastinum generally has a benign course. However, given the need to exclude other, more serious, pathologies, it seems likely that most cases will continue to require hospital admission for observation and possibly further investigation.

- 1 Pittman JAL, Pounsford JC. Spontaneous pneumomediastinum and ecstasy abuse. *J Accid Emerg Med* 1997;14:335-6.
- 2 Levine AJ, Drew S, Rees GM. "Ecstasy" induced pneumomediastinum. *J R Soc Med* 1993;86:232-3.

Royal Gwent Hospital,
Newport
G I Quin
G M McCarthy
D K Harries

Correspondence to:
Dr Gareth Quin, Senior
Registrar in Accident and
Emergency Medicine, Royal
Gwent Hospital, Newport
NP9 2UB.

Severe mediastinal haemorrhage after a rugby tackle

C S Carr, P P Tekkis, J C Roxburgh

A 28 year old male received a "head butt" to the sternum during a rugby match. At the end of the match he complained of severe chest pain and shortness of breath. On arrival at hospital his pulse was 80 beats/min, his blood pressure 125/75 mm Hg, and the oxygen saturation on air was 94%. On examination there was local tenderness over the body of the sternum. Radiography showed widening of the mediastinum but no sternal fractures, therefore computed tomography was performed, which showed a mediastinal haematoma and small pleural effusions. He was monitored overnight; the next day he was sweaty with a pulse of 100

beats/min, a blood pressure of 120/70 mm Hg, and oxygen saturation on air of 91%. Repeat chest radiography showed increased mediastinal widening. After transfer to a cardiothoracic centre an echocardiogram showed a mediastinal haematoma but no pericardial effusion and further computed tomography showed an increase in size of the mediastinal haematoma and the left pleural effusion, and also collapse of the left lung (fig 1). Angiograms of the arch of the aorta and pulmonary artery were performed, both of which showed integrity of the vascular systems. A rigid bronchoscopy was performed to exclude injury to the bronchial

Department of
Cardiac Surgery, St
Thomas' Hospital,
London SE1 7EH
C S Carr
P P Tekkis
J C Roxburgh

Correspondence to:
Miss Carr.

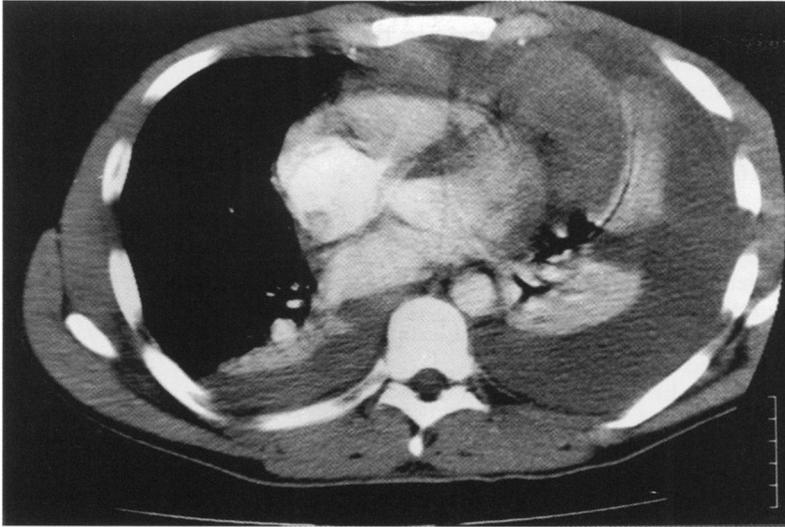


Figure 1 Computed tomogram of the chest.

tree, which showed no evidence of tears or fresh blood. A left chest drain was inserted with immediate drainage of 1600 ml of blood. The drain was removed after three days, with a chest radiograph before discharge (eight days) showing regression of the mediastinal haematoma and expansion of the lung.

In this case, despite the moderate trauma, both the chest radiography and computed tomography revealed considerable mediastinal haemorrhage, and we feel that the underlying pathophysiology may have been a direct blow causing deformation of the sternum without

fracture, leading to tearing of mediastinal vessels, possibly the internal mammary vein or artery. Other reported complications of blunt chest trauma include: direct cardiac injury with cardiac rupture, left ventricular aneurysms, or pseudoaneurysms¹; valve incompetence²; and damage to the thoracic duct.³ Damage to the internal mammary artery has been reported, with the formation of an anterior mediastinal haematoma producing external pericardial compression requiring surgical intervention.⁴ There is also a small incidence of blunt chest trauma induced cardiac arrest during sports activities (commotio cordis) in young athletes with a relatively poor survival rate due to delayed resuscitation.⁵ We have presented a case of considerable mediastinal haemorrhage after a rugby tackle associated with no bony injuries. This case demonstrates that even if the trauma appears trivial, adequate investigation is the only method for excluding potentially life threatening complications.

- 1 Maselli D, Micalizzi E, Pizio R, *et al.* Posttraumatic left ventricular pseudoaneurysm due to intramyocardial dissecting haematoma. *Ann Thorac Surg* 1997;64:830-1.
- 2 Banning A, Durrani A, Pillai R. Rupture of the atrial septum and tricuspid valve after blunt chest trauma. *Ann Thorac Surg* 1997;64:240-2.
- 3 Ikonomidis J, Boulanger B, Brennehan F. Chylothorax after blunt chest trauma: a report of 2 cases. *Can J Surg* 1997;40:135-8.
- 4 Irgau I, Fulda G, Hailstone D, *et al.* Internal mammary artery injury, anterior mediastinal hematoma, and cardiac compromise after blunt chest trauma. *J Trauma* 1995;39:1018-21.
- 5 Maron B, Strasburger J, Kugler J, *et al.* Survival following blunt chest impact-induced cardiac arrest during sports activities in young athletes. *Am J Cardiol* 1997;79:840-1.

Splenic herniation causing massive haemothorax after blunt trauma

Jan J De Waele, Frank E G Vermassen

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 tachypnoeic (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

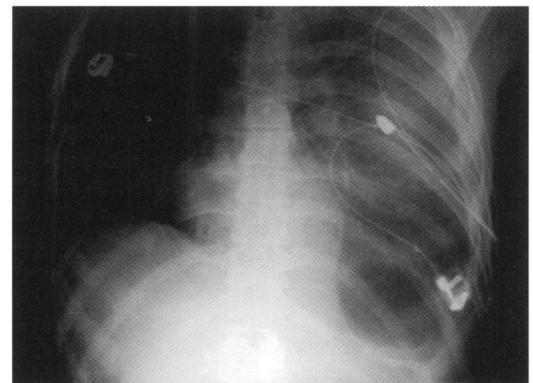


Figure 1 Chest radiograph after bilateral chest tube placement, and orotracheal intubation.

Department of
Surgery, University
Hospital Ghent,
Belgium
JJ De Waele
F E G Vermassen

Correspondence to:
Dr Jan J De Waele,
Weezenhof 3242, 6536 GL
Nijmegen, The Netherlands
(e-mail: jan.dewaele@
rug.ac.be).