

A SHATTERED SPINE WITH BLEEDING CHEST – A CASE OF BILATERAL HAEMOPNEUMOTHORACES AND HAEMOMEDIASTINUM SECONDARY TO THORACIC SPINE FRACTURE-DISLOCATION

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Introduction: Thoracic spine fracture-induced haemothorax is rare but fatal. We report a case of thoracic spine fracture-dislocation with bilateral haemopneumothoraces and haemomediastinum that we encountered in our centre.

Case Description: A 19-year-old male, who was a motorcyclist, sustained back pain with paraplegia after a collision with a lorry. In the emergency department, examination revealed complete spinal cord injury below T6. Otherwise, he was haemodynamically stable and saturating well with low-flow oxygen. A computed tomography (CT) of the whole spine showed T4 burst fracture, T3/T4 fracture-dislocation, and spinal canal stenosis. The CT also revealed incidental findings of pulmonary contusion, multiple rib fracture, bilateral haemopneumothoraces and haemomediastinum, with active contrast blush adjacent to the T3/T4 fracture-dislocation, likely from right superior intercostal vein bleeding. Bilateral chest tubes were inserted and three units of packed red blood cells were transfused. He was transferred to a tertiary centre the following day for thoracic spine fixation. Subsequently, a tracheostomy was done for prolonged ventilation for lung atelectasis and pneumonia. He was discharged after one month of hospitalisation.

Discussion: Thoracic spine fracture-induced haemothorax is usually associated with unstable spine fracture accompanied by dislocation. The haemothorax may be detected early or late. The patient's movement appeared to be related to the onset and severity of haemothorax. In our case, the transport to the CT suite and interhospital transfer might contributed to the worsening of haemothorax. Haemostasis in this condition is challenging. For the haemodynamically unstable patient, Ninomiya *et al.* suggest damage control surgery by thoracotomy with gauze packing, application of bone wax or haemostatic agent. Our patient's haemopneumothoraces were managed conservatively with chest drains and blood transfusion as his haemodynamics were stable. Pneumonia is a late but common complication this condition, which will further compromise the ventilation of a patient with haemothorax, rib fracture, and pulmonary contusion.

Conclusion: Massive haemothorax from thoracic spinal injury is uncommon but can be life-threatening. A high index of suspicion and close monitoring for haemothorax in unstable thoracic spine fracture will allow early detection and intervention to improve the outcome. Unnecessary transport should be minimised to prevent exacerbation of the haemothorax.

Keywords: Haemomediastinum, haemothorax, thoracic spine fracture