

## **Sports medicine: "Multiple Rib Fractures and Pneumothorax Resulting from a Devastating Tackle"**

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**Introduction:** Due to the physical nature of rugby, players are susceptible to multiple injuries. The incidence of chest wall injuries and pneumothorax in rugby ranges from 4-5% and 1.5-3%, respectively.

**Case Description:** A 24-year-old male rugby player complained of severe back pain and breathlessness following a rugby tournament. He reported the injuries occurred after he attempted to tackle his opponent using his right shoulder. He was immediately transported to our Emergency Department by a paramedic team stationed at the field after assessment. Upon arrival, he exhibited signs of pain but remained vitally stable. Physical examination revealed bruises on the right posterior upper torso and shoulder along with positive tenderness in the right posterior chest wall. Other systemic examinations were unremarkable. Pain management was given before undergoing a Chest X-ray. The imaging revealed multiple right rib fractures; 5<sup>th</sup> to 8<sup>th</sup> rib with a pneumothorax. No signs of hemothorax or lung contusion were observed. With the patient's consent, a right thoracostomy tube was inserted under sedation and local anesthesia.

**Discussion:** Tackling is considered the rugby phase most commonly associated with injuries due to the great forces released when 1 player makes contact with an opponent. Rib fractures are typically caused by direct force contact resulting in immediate pain and localized tenderness as experienced by this patient. A simple pneumothorax is rarely life-threatening, but it can develop into a tension pneumothorax, which can be fatal. Tension pneumothorax happens when air accumulates in the pleural space leading to increased intrathoracic pressure which can impede venous return and decrease cardiac output. An urgent thoracic decompression is required to reduce pressure. In this case, the traumatic pneumothorax is related to an acceleration-deceleration injury or caused by a direct blow during tackling. Although sports-related chest trauma is infrequent, we should keep in mind the possibility of pneumothorax in athletes with chest trauma.

**Conclusion:** Having a basic understanding of the game, including potential injuries during the matches along with high clinical suspicion and a careful assessment following trauma life support protocols are crucial for prompt recognition and appropriate treatment with rapid intervention.

**Keywords:** rugby, multiple rib fractures, pneumothorax