
E64 A Penetrating Chest Trauma Due to a High-Velocity Projectile in the Workplace

Sarah Hinnawi, MD, Mumbai, Maharashtra 400042, INDIA; Ganesh Patil, MBBS, HBT Medical College, Mumbai, INDIA*

Learning Overview: After attending this presentation, attendees will be aware of the various fatal injuries that can occur due to freak accidents at the workplace involving high-velocity projectiles.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing insight into the injury profile of penetrating traumatic injuries at a construction site.

Penetrating trauma is that which is caused by a foreign object piercing the skin, damaging the underlying tissues, and leading to an open wound. In addition to Gunshot Wounds (GSWs) and stab wounds, these injuries include other types of impalements as well and can range in severity from superficial punctures to penetration of major body systems, including vital organs, that may lead to the death of the person. Thoracic lesions are a major aggravating factor in patients with multisystem trauma, accounting for nearly 20% of all deaths of penetrating traumatic origin. There are very few reported deaths due to penetrating projectiles, and penetrating injuries over the chest are even more rare. It is a known fact that mechanical injuries in a factory or construction site set up are common occurrences in India, although they are not always fatal. They can be attributed to a lack of precautionary and safety measures. Occupational injuries from projectiles are common at workplaces, but they are not usually fatal as they only affect the eyes or subcutaneous tissue.

In this case, an incidence is reported where a part of the machinery acted like an unusual projectile, leading to devastating chest injuries causing death. Most of the time, gross injuries may be visible, but in certain cases there may be minimal external injury. Crime scene examination led to the reconstruction of the exact cause and circumstances of death. This case brings forth the already understood penetrating trauma aspects of wound ballistics that can be used to explain the response of all tissue to penetrating trauma of all types, thereby helping to predict and explain the severity or lack of severity of tissue injury in trauma in general. While there are several cases about penetrating injuries due to unusual projectile foreign bodies, no cases have been discussed in recent literature, per this study's research. Proper evaluation requires crime scene correlation and comparison of the metallic fragment or projectile retrieved at autopsy and machinery and tools from the scene of the incident.

Penetrating Chest Injury, High-Velocity Projectile, Occupational Injuries