



# Penetrating Wound of the Thorax by Zebu Horns: Report of an Observation

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**Abstract:** *Introduction:* Thoracic wounds by of zebras horns are rare accidents that occur most often in rural areas. They are characterized by their high sepsis. The objective of this work was to present a clinical case relating to a penetrating wound of the thorax by zebu horns. *Observation:* It was a 50-year-old patient with no particular pathological history who consulted the emergency room for chest pain, a wound in the chest following a trauma to the chest by zebras horns. On admission the vital parameters were within normal limits. There was a wound of about 2cm at the level of the 7th left intercostal space 2cm outside the nipple line, about 4cm deep, with irregular edges with slight subcutaneous emphysema, the right hemithorax was unremarkable; the abdomen was soft and painless, the examination extended to other organs and systems was normal. A chest X-ray showed a left hemo-pneumothorax. He had emergent surgery consisting of an abundant washing of the wound, a thoracic drainage and closure of the wound. The postoperative course was simple. *Conclusion:* penetrating wounds of the chest are frequent and serious lesions, zebu horns wounds represent a rare clinical entity found in particular conditions. The care is multidisciplinary, and it begins at the place of the accident. Thoracic drainage, the basic gesture of thoracic surgery, stabilizes most of the victims of this accident. The failure of the drainage must lead to a reassessment of the therapeutic attitude in order to rectify the initial diagnosis and prevent sequelar lesions.

**Keywords:** Wound, Thoracic, Zebu Horns

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## 1. Introduction

The penetrating wound of the thorax is defined as a solution of continuity of one of the lining tissues of the thorax; exceeding the parietal pleura of either of the two pleural cavities or if it reaches one of the mediastinal tissues [1]. Thorax injuries by their frequency represent a public health problem. Zebu horns injury represents an infrequent etiology of chest trauma worldwide, occurring mostly in rural areas [2]. They represent a medico-surgical emergency that can jeopardize the short and medium vital prognosis of the patient. In the short term, by the severity of the lesions and in the medium term by sepsis [3].

## 2. Observation

A 49-year-old patient was admitted in the emergency room for an open chest trauma by zebu horns. He presented with a chest pain, slight pallor of the conjunctivae; blood pressure was normal, respiratory rate was 25 beats/minute, room air saturation was 92%. There was a wound of about 2cm at the level of the 7th left intercostal space 2cm outside the nipple line, about 4cm deep, with irregular edges with slight subcutaneous emphysema, the right hemithorax was unremarkable; the abdomen was supple and painless, the examination extended to other organs and systems was normal. He benefited from surgical drainage. The

postoperative course was simple.



**Figure 1.** Image at admission showing a large thoracic wound.

The chest x-ray revealed a left hemo-pneumothorax, a stable fracture of the 7<sup>th</sup> rib. The biological exams showed an anemia at 10g / dl. The indication for an exploratory thoracotomy under general anesthesia was carried out, the exploration revealed a fracture of the 7<sup>th</sup> rib; a pleural wound leaving the heart mass bare, a hemothorax of medium abundance, we did not note any heart or lung lesions. We performed open chest drainage followed by cleansing with isotonic saline and parietal suture. On day 2 and day 5 postoperative control radiographs were normal. He left the hospital on day 10 postoperatively.



**Figure 2.** Assessment of the wound.

### 3. Discussion

The frequency of urban violence has made penetrating trauma, once observed in military medicine, an increasingly common surgical emergency over the past sixty years. In 2013 in France, nearly 375,000 cases of violence against people (villainous or not) were recorded by the national police and gendarmerie [4, 5]. The frequency of penetrating chest wounds is assessed differently by the authors.

In Europe, the frequency of penetrating wounds is high, taking into account the fact that the majority of cases of thoracic trauma by goring of cattle is observed in bullfighters during bullfights, apart from these circumstances, trauma by goring of zebus is rare in the world because it is only observed in a few agricultural countries, notably in black Africa and Asia which still use oxen in agriculture and livestock farming [4]. The frequency of chest injury in penetrating trauma is well known in war practice, where it represents only 4% of injuries but 24% of deaths [6]. This proportion is different from civilian practice due to the wearing of protective clothing. If blunt chest trauma is more common in people over 50; open chest injuries, especially by zebu goring, are observed mainly in young men between 20 and 40 years old, which could be explained by the consequences of accidents with civil liability, whether by aggression or suicidal act [7-9].

Our patient was 50 years old, which is somewhat contrary to most cases of penetrating wounds by zebu goring reported in the literature. According to the statements of our patient, he would have been surprised in the enclosure by a Zebu horn neck when he was trying to serve them food for the animals, this trauma would have resulted in a hemorrhagic wound in the thorax; these circumstances resemble the accidents during the corrida sport practiced in Europe with different contexts [10, 11]. The clinical manifestations vary from one series to another, they range from a simple superficial cutaneous wound to deep visceral lesions; thus Randrianambinina and coll in their study relating to 78 cases of thoracic traumatism by goring of zebus noted 47 cases of superficial wounds of the thorax, 61 cases of broken ribs and 4 cases of diaphragmatic rupture, 11 pulmonary contusions. The treatment of zebu goring trauma is multidisciplinary involving resuscitators and surgeons. These lesions are highly sepsis, which justifies broad-spectrum antibiotic prophylaxis and emergency serotherapy. To these measures are added a good toilet, thoracic drainage and parietal closure. Hemostasis thoracotomy is indicated in the presence of vascular lesions, heart or trachea-bronchial wounds [4, 12]. We observed in our patient a parietal wound, a fracture of the seventh anterior rib, with pleural infraction and hemothorax. In front of these lesions we proceeded to an abundant toilet, open pleural drainage and a parietal suture all framed by a probabilistic antibiotic therapy, the simple suites. Understanding traumatic chest injuries and appropriate management plays a pivotal role in the overall well-being of both blunt and penetrating trauma patients [13-16].

### 4. Conclusion

Penetrating wounds of the chest are frequent and serious lesions, zebu goring wounds represent a rare clinical entity meeting in particular conditions. The care is multidisciplinary, and it begins at the very place of the accident. Thoracic drainage, the basic gesture of thoracic surgery, stabilizes most of the victims of this accident. The failure of the drainage must make reassess the therapeutic attitude to

rectify the initial diagnosis and prevent sequellar lesions.

## Conflicts of Interest

The authors declare no conflicts of interest.

## Author's Contributions

All authors have contributed to the development and implementation of this work. The authors also declare that they have read and approved the final version of this manuscript.

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