

Penetrating Thoracic Injury with an Iron Rod: An Emergency Service Experience

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Abstract: Penetrating thoracic injury by a foreign body is a potential cause of high morbidity and mortality. We report a 10-years-old male having impalement injury on the right inferior thoracic region with a metallic rod. Patient was successfully managed in the emergency ward without any surgical intervention.

Keywords: Iron Rod, Thoracic injury, Emergency medicine.

INTRODUCTION

Thoracic injuries are very important due to their high mortality and high incidence [1]. Especially, penetrating thoracic injuries are potentially life-threatening because of the associated visceral injury [2]. In this trauma type, injury to the great vessels brings the highest risk of mortality and is fortunately much less common in children than in adults thanks to increased vessel elasticity in children [3]. In general, penetrating injuries result to fall from a height onto a sharp object [4]. In this report, we aim to present the

case of a child who had penetrating injury of thorax with metallic rod.

CASE REPORT

A 10-years-old male child was admitted to our emergency department after having penetrating injury of thorax. It occurred, while he was skipping over fence. Then he was brought to our emergency service. The metallic rod penetrated anterior of thorax and the sharp head of rod stayed in the chest wall (Figure 1,2).



Fig 1-2: Penetrating injury due to iron rod in child

Patient was oriented and conscious but had miserable pain. His blood pressure was 110/65 mmHg, pulse rate 110 beats per minute, repiration rate 22 per minute and oxygen saturation was 97% while breathing room air during emergency department's admission. He denied dyspnea and there was no abnormal sound in auscultation. On physical examination, all systems were

within normal limit except skin tear and subcutaneous emphysema on anterior of chest wall. After the initial evaluation, hydration was started and pain relief was achieved with the use of paracetamol. Then chest X-ray, abdomen X-ray, abdomen ultrasound and thorax computed tomography (Figure 3,4) were performed, respectively.



Fig 3: Computed tomography image showing extraabdominal rod

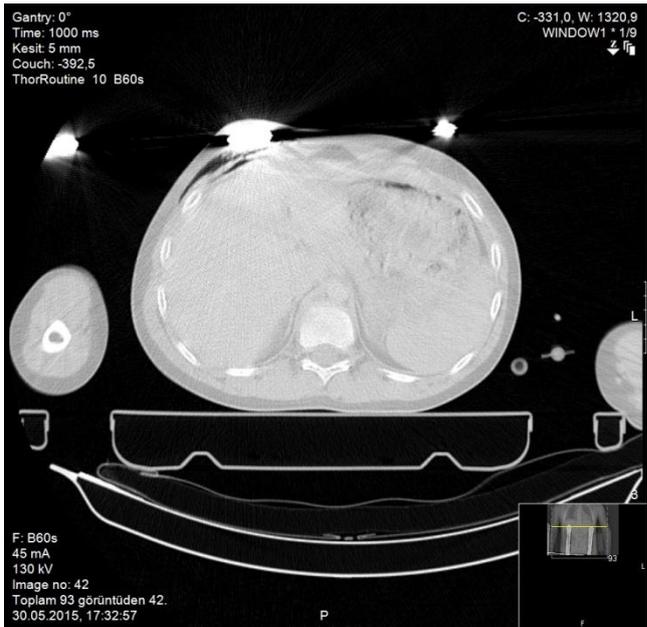


Fig 4: Penetrating injury. Shows ekstra-abdominal location of iron rod

They showed no bone injury, hemothorax, pneumothorax or other organ injuries. We performed to pull out the rod in emergency room, due to no visceral injury and stable statement of the patient. After that, we sedated the patient by midazolam (0.05 mg/kg) and ketamine (1mg/kg) and pulled out the rod very kindly. Bleeding and any other complications were not observed and wound was repaired. He hospitalized for two days in emergency department. In addition to he was administered duocid 1.5 g/day and dressed his wound daily. The patient was discharged in good health.

DISCUSSION

The management of penetrating thoracic injuries has troublesome circumstance in pre-hospital care, transport, and an emergency department. Firstly, close monitoring, resuscitation, hydration are an important vital steps with anticipation of major organ and vascular injuries compromising the normal physiology of respiration and circulation in this patients [2]. After that, if the patient is hemodynamically stable, we should take thoracic computed tomography without wasting time, to identify injuries to major thoracic structures and for surgical planning. Hence, we must keep in mind the exploratory surgery requirement and consult with the surgical team early in presentation [3]. Penetrating thoracic injuries demand immediate life-saving measures, prompt diagnosis and immediate intervention by emergency specialist. Early intervention can improve the patient outcome and minimise mortality. In the literature, the impaled object must be removed only in operation room, so that possible vascular lesions remain buffered by the object, avoiding major bleeding [4].

CONCLUSION

In conclusion, despite the literature, we demonstrated that we can pull out impaling objects in emergency department in case of no vascular and visceral injury.

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