

CLINICAL IMAGE

Penetrating neck injury by a sickle

Ramesh Parajuli  & Suman Thapa

Chitwan Medical College Teaching Hospital, Chitwan, Nepal

Correspondence

Ramesh Parajuli, Department of Otorhinolaryngology, Chitwan Medical College Teaching Hospital, P.O. Box:42, Chitwan, Nepal. Tel: +977-56-532933; Fax: +977-56-532937; E-mail: drrameshparajuli@gmail.com

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Introduction

A 6-year-old male was brought to our emergency department having sustained an accidental penetrating injury to zone 1 of the neck with a sickle. On examination, there was a foreign body sickle (Fig. 1) with its wooden handle as an entry point at the right submandibular region with no active bleeding and without evidence of vascular or neurological injuries. The sickle had serrated part on its concave surface and blunt part on its curvature.

Questions

1. What is the investigation of choice in this patient?
 - a. X-ray
 - b. Ultrasonography
 - c. CT scan
 - d. MRI
 - e. Angiography
2. What is the superior limit of foreign body piercing the neck in this patient?
 - a. Oral cavity
 - b. Maxillary sinus
 - c. Orbit (ipsilateral)
 - d. Orbit (contralateral)

Key Clinical Message

CT scan is the most important investigation in patients with penetrating neck injury in which it can show the extent of internal injury which may be overlooked. Without CT scan being performed, one should not try to remove foreign body by just pulling blindly, as it can injure vital structures.

Keywords

Neck, penetrating injury, sickle.



Figure 1. Sickle penetrating the neck immobilized with adhesive tape.

Discussion and Outcome

Penetrating neck injury can be life threatening because of the increased risk of injury to the vital structures such as blood vessels, airway, cervical spines, and nerves which are present in such a small confined area [1]. The foreign body may be providing tamponade effect on a major blood vessel so it should not be blindly pulled out until radiological evaluation [2].

Our patient initially has undergone plain X-ray of the neck as a means of cost-effective investigation. But from X-ray alone, it was not possible to find the accurate information regarding the relation of foreign body with the adjacent vital structures. So CT scan was performed subsequently.

Computed tomography scan can be helpful to know the extent of the injury sustained by the patient with penetration of neck with sharp objects such as sickle, knife, broken glasses, metallic and wooden foreign bodies.

In this case, the computed tomography showed the metallic foreign body penetrating the soft tissue of neck on right side reaching the opposite side orbit. Intra-operatively, the foreign body was found to be penetrated to floor of mouth, involving dorsum of tongue and soft palate, then entered into left nasal cavity, piercing the middle turbinate, and finally entered into left orbital cavity lying posterior, that is, very close to the orbital apex (Fig. 2–4).

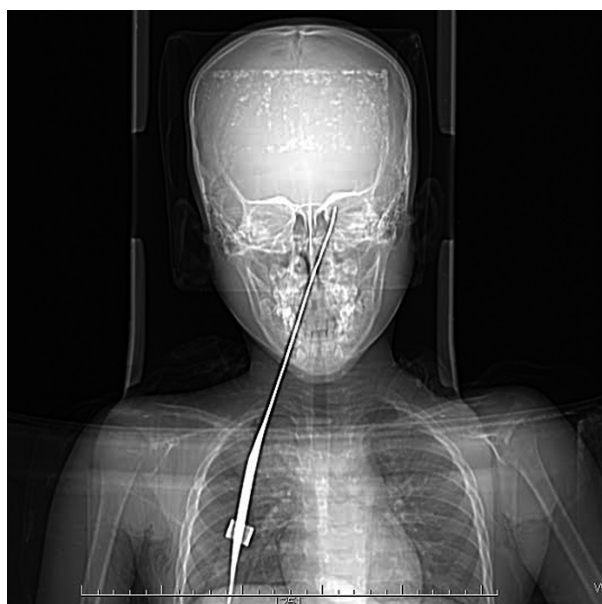


Figure 2. Coronal view of CT scan showing the entry point and the extent of foreign body.



Figure 3. Lateral view of CT scan showing the superior limit of penetrating foreign body.

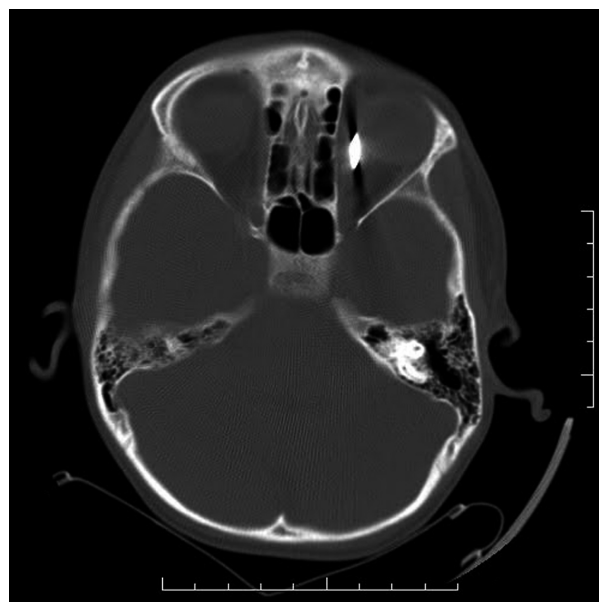


Figure 4. Axial view of CT scan showing metallic foreign body in left orbit.

Correlating the radiological and clinical finding, excessive mobilization of foreign body was avoided. It was removed without any complications. The patient had an uneventful postoperative recovery. His eyeball movements were normal, and vision was intact.

Take Home Message

Although X-ray plain film is a cost-effective investigation method in the case of metallic foreign body penetrating the neck, one should not rely alone on it, as it cannot reveal status of neurovascular structures lying adjacent to foreign body in an anatomically important area such as head and neck region. CT scan is a definitive imaging technique which yields important information and makes interpretation easy. So, it must be taken before planning the removal of foreign body in operation theater.

Acknowledgments

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Conflict of Interest

None declared.

Authorship

RP: prepared manuscript. ST: critically reviewed the manuscript.

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