AN UNUSUAL PENETRATING FOREIGN BODY IN THE NECK

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ABSTRACT

A case of a penetrating injury of the neck sustained due to a flying fragment of metal is presented. The nature of the Injury and its management are discussed.

Key Words: Neck Injury, Penetrating, Vascular Injury, Foreign Body.

REPORT

A 22 year old patient presented to the Emergency Ward of the Western Regional Hospital, Pokhara with a history of having sustained an injury to the neck a few hours ago, stating that a piece of rock entered his neck when someone was chipping a rock with a crowbar- Following the trauma he had profuse bleeding from the neck, which was staunched by pressure.

On examination, he was alert and conscious with a pulse rate of 98/min; BP of 100/70mm Hg-There was a 1cm-long laceration 2cms lateral to the thyroid notch on the left side of the neck from which little blood was trickling. There was fullness of the neck on the left side and carotid pulsation was palpable. Blood was cross-matched, X-rays were taken to locate the foreign body, and the patient taken to the Operation theatre for a Neck exploration under General anaesthesia.

Fig. 1, X-Ray neck AP, soft tissue view; showing a densely radio-opaque shadow anterior to the 4th and 5th cervical vertebrae.

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Fig. 2, X-Ray neck lateral view, showing the densely radio-opaque shadow lateral and to the left of the 5th cervical vertebra; the tracheal air shadow is displaced to the right.

X-Ray neck soft tissue (lateral and AP views) showed a small densely radio opaque foreign body in the neck on the left side at the level of the 4th and 5th cervical vertebrae, the larynx and trachea were grossly deviated to the right.

The patient was fully conscious and insisted on walking into the Operation theatre, but as soon as he was on the table he started to bleed profusely from the neck wound. A rapid sequence intubation was done and the bleeding controlled by external pressure, while the neck was prepared and draped. With the application of pressure on the neck superiorly the neck was opened inferiorly with a vertical incision along the anterior border of the Sternocleidomastoid muscle. Suspecting a major vessel injury in the neck due to the torrential bleeding from the wound, the Carotid sheath was opened and the Carotid Artery controlled with vascular tapes. This maneuver did not lessen the

hemorrhage and the neck was explored by further extending the incision superiorly. After removing large clots in the neck, bleeding vessels i.e. branches of the superior laryngeal artery and vein were ligated. The foreign body - a small fragment of metal 1.25cms. in size was located in the Carotid sheath, between the Carotid at the bifurcation, and the Internal Jugular Vein. To remove the metal fragment the Internal Jugular Vein was ligated and divided, the Carotid Artery was found to be intact. The metal piece had punctured the neck, and turned laterally after striking the Thyroid cartilage to rest on the Carotid Artery after damaging the Laryngeal vascular pedicle. The neck was closed in layers and the patient made an unremarkable recovery.

DISCUSSION

Penetrating injuries of the neck are seen following assault with knives or bullet injuries.¹ Accidental falls leading to impalement is another source of trauma to the neck.² In this case the injury was due to a flying fragment of metal from a crowbar, which broke off on striking a rock. A similar case has been reported due to a splinter of metal from an axe while chopping wood.³ And another due to flying metal while cutting metal.⁴

Investigations of patients with penetrating neck wounds include X-rays, Barium swallow, endoscopy, arteriography and CT scans. Arteriography is not universally available but Color Dopplers are now more frequently accessible and can be used to assess vascular injuries in the neck.^{5,6}

There is a difference of opinion regarding neck explorations in patients with penetrating neck wounds without obvious vascular or visceral injury. With proponents for mandatory neck exploration of wounds deep to the platysma,^{7,8,9} and those who wishing to avoid unnecessary neck explorations advocate a more conservative policy of observation and extensive investigation.^{10,11,12,13} In the scenario of a Regional Hospital with limited investigative and human resources it would seem reasonable to advise neck exploration when faced with a visceral

Fig. 3, Photograph of the foreign body, a fragment of metal measuring 1.25cms in size.

injury, emphysema in the neck spaces, hypovolaemic shock, active bleeding from the wound and a large or expanding hematoma, especially with absent Carotid artery pulsations.

As retained foreign bodies can produce retropharyngeal abscess as a late complication,¹⁴ it should be removed surgically, electively if not as an emergency procedure.

In situations of neck injury due to foreign bodies causing vascular injury, neck exploration with initial access to the Carotid sheath before attempting to search and remove the foreign body is safer and expedient.

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