International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Arrow Injury in Neck: A Case Presentation

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Abstract: ***Most common penetrating anterior neck injuries in the developed world are Gunshot injuries, but in the developing countries, knives, spears, arrows, and machetes are the preferred weapons, particularly in tribal societies. Aim is to present the case report of a shot injury to the anterior neck in 14 year old cattle rearer in a village who presented with history of an arrow shot in anterior part of the neck. There was scanty bleeding from the site with the arrow in-situ sealing the wound. The entrance point of the arrow, about 1 cm in diameter, was just at the anterior border of the right sternocleidomastoid muscle; about 3 cm above the medial end of the right clavicle.***

Keywords: Arrow injury in neck, exploration and removal of arrow

1. Introduction

Arrow shot injuries are fairly common during harvesting period as a result of clashes between cattle rearers and farmers. Arrow shot found in-situ in the neck at presentation requires urgent exploration under general anaesthesia. In case the arrow had been removed before patient presented, profuse bleeding from the site will also warrant urgent exploration in other to secure hemostasis. This report presents a 14 year – old boy who was shot in the neck with an arrow He was referred to a hospital where the arrow was successfully removed.

2. Presentation of Case

We treated a case of 14yrs old male who was injured by sharp arrow at right side of neck(Fig.1).He was examined thoroughly. On examination his vitals were normal. There was no swelling in neck , no major vascular injuries in neck. His carotids were normal, Brachial pulses felt normaly. There was no dysnea /subcutaneous emphysema/other respiratory problem. There was no dysphasia. His chest x ray –no pneumothorax noted(Fig.2). Patient was poor, operated in small hospital. CT scan facility was not there, hence on the basis of clinical finding he was explored under general anaesthesia(Fig.3). Transverse incision was given,at the site of entery wound which was extended to 8-10 cm. Neck was explored till transverse process of cervical vertebra. Pointed ends of arrow was carefully delivered out(Fig.5) & after safe guarding all vital structures, neck was closed in layers(Fig.4). Patient recovered successfully.

Figure 1: Arrow at neck

Figure 2: X-Ray of neck

Figure 3: Exploration of neck

Figure 4: Wound closed with stitches

Figure 5: Specimen of arrow

3. Discussion

Although gunshot wounds are the most common anterior neck penetrating injuries in the developed world, but in the developing countries, like India, where knives, spears, arrows, are used. Penetrating neck injury accounts for 1% of trauma in USA (1). There is paucity of literature on arrow shot injuries in our environment thus no record of its incidence. However the incidence appears to be common among the Hausa-Fulani ethnic group of Nigeria where arrows and spears are commonly used for hunting. Patients with penetrating injuries to neck, present in three ways: a) The weapon is still in place. In this situation, it should be removed by a surgeon under general anesthesia so that major structures in the path of the injury can be, if possible, repaired and a catastrophe on removal avoided; b) The weapon has been completely removed by the patient or his relatives. The underlying injuries may or may not be obvious, and usually wound exploration and debridement are necessary, particularly where CT or MRI are not available to demonstrate the extent of the damage. Late presentation with an AV fistula or false aneurysm may occur weeks after the injury; c) Part of the weapon is retained internally, and the wound has healed. If this is not appreciated by the relatives or the primary care doctor, the opportunity for early removal is missed. The patient will return if complications develop. Our patient presented early, after 4 hours,of trauma to neck. This prevented, serious complications of arrow injuries that have been reported in different literatures.

Experience with late complications of gunshot wounds to the head has mainly come from wars (2,3). Late complications of penetrating arrow and spear wounds are infrequently reported but are not uncommon in Papua New Guinea where tribal fighting is still rife.The complications can be divided into vascular, infectious, and neurologic. Radiological evaluation of the patient is important.

It should be noted that not all arrow or spear tips are radiopaque.The metallic head is radiopaque as seen in our case, but CT or MRI are preferred investigations in such cases rather than plain X-ray. MRI is useful in identifying wood fragments (4, 5). Wood carries a high risk of infection and fragmentation(6).It is important to reiterate the advice of O'Neill et al. that arrows with barbs should be removed in an anterograde direction along the line of its trajectory to avoid snagging blood vessels and other structures (7). Penetrating neck injuries present complex management problems for the surgical trauma team because of the major vascular, neurologic, aerodigestive tract, and soft tissue structures that are at risk for injury. There is little disagreement that patients with zone II neck injuries exhibiting signs or symptoms suggestive of significant vascular or visceral injuries must undergo mandatory neck exploration .The indications for mandatory neck explorations include the following: a) continued bleeding from the wound, hematoma, or shock;b) blood in the aerodigestive tract; c) subcutaneous emphysema, hoarseness, or aphonia; d) neurologic deficits; and e) inability to observe or study the patient because of other injuries. Other authors have recommended similar protocols for mandatory neck explorations.The presence of a highly skilled surgical trauma team and ancillary support staff are important for a disciplined approach to manage penetrating arrow neck injuries.

4. Conclusion

Penetrating neck trauma from arrow shot may lead to potentially life-threatening injuries. A prompt diagnosis, a systematic treatment protocol, and an experienced trauma team are necessary to prevent a potential catastroph. In conclusion there is a need for government in both the state and local level to establish a fully functional specialist hospital equipped with all the necessary diagnostic and therapeutic facilities and a subsidized service rendered to the community.

5. Conflict of interest

None

6. Funding

None

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