



Journal Homepage: - www.journalijar.com
**INTERNATIONAL JOURNAL OF
 ADVANCED RESEARCH (IJAR)**

Article DOI: 10.21474/IJAR01/1913
 DOI URL: <http://dx.doi.org/10.21474/IJAR01/1913>



RESEARCH ARTICLE

STAB INJURIES OF THE NECK- A NIGHTMARE FOR SURGEONS.

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Manuscript Info

Abstract

Manuscript History

Received: 12 August 2016
 Final Accepted: 22 September 2016
 Published: October 2016

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Introduction:-

The management of penetrating neck trauma has always been a nightmare for surgeons. The platysma is the peritoneum of the neck. Though the dimension of the injury may appear trivial, it may be masking a life threatening injury. The vital structures are closely packed in the neck especially in zone 2 and they are at risk in penetrating neck injuries. These vital structures are primarily the airway, vascular structures, esophagus, spinal column including the spinal cord, the lower cranial nerves, the brachial plexus and the thoracic duct on the left neck¹. Patients with uncontrollable hemorrhage, expanding hematomas or those in shock need immediate hemorrhage control. It means transfer of the patient to the operating room and exploration under good light and adequate anesthesia. Here we report a case of "soda bottle injury" of left side of neck.

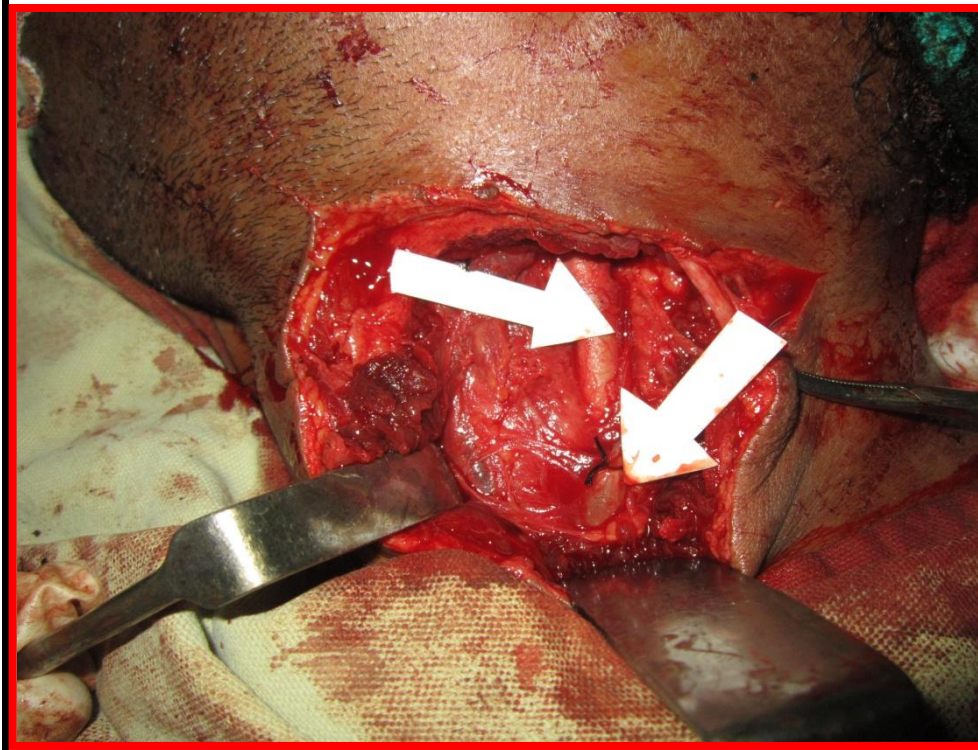
Clinical profile:-

A 32 year old gentleman was brought in state of shock with an active bleeding following assault by unknown persons with soda bottle injury (stab injury) over the left side of neck half an hour back. Patient was conscious and his blood-pressure was 70/? with a pulse rate of 120 per minute and feeble with no breathing difficulty. There was profuse bleeding from wound. As per ATLS protocol primary survey was carried out for ABC's airway, breathing and circulation. On examination an irregular laceration 4 x 2 cm over the anterior triangle of left side of neck at about 3 cms lateral to hyoid bone over vascular zone 2 just in front of medial border of left sternocleidomastoid muscle. After initial and immediate resuscitative measures, with adequate blood he was shifted to operating room.

After stabilizing and under general anesthesia, the laceration was explored. A partial transection injury of the left internal jugular vein identified and was ligated under loupe magnification. There were also few glass pieces in the neck wound which were removed carefully. The wound was closed with a drain in layers. But immediately after dressing the wound, the drain was filling rapidly and the wound dressing was soaked. The blood pressure and pulse was not picking up even after ligation of internal jugular vein. Immediately we planned to re explore the wound under same anesthesia. We were surprised to see another small rent of 0.5 x 0.5 cm in the internal jugular vein proximal to the previous injury. It was repaired under loupe magnification with 7-0 prolene interrupted.

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Post operatively, he was observed to have voice change. On indirect laryngoscopy examination, both vocal cords were found to be mobile and normal. He was put on systemic steroids to reduce the edema. Speech therapy was initiated. Careful oral feeding was done in upright posture. Drain removed on 2nd post operative day and sutures on 7th day. Patient made uneventful recovery and was discharged on the 7th day. After follow up for six weeks, patient regained his original voice.



Discussion:-

Zone 2 injuries neck has always been a nightmare for the surgeons²; this is the most frequently injured region in the neck. The mortality rate from these injuries is relatively low because of the better surgical exposure compared to the other zones. Because of the density of vital structures in this zone, multiple injuries are common and can cause morbidity. Mortality, particularly for major vascular injuries may reach 50%³. Delayed complications such as pseudo aneurysms or arteriovenous fistulae can affect long-term outcomes⁴. Penetrating wounds of the neck accounts for 5-10% of traumatic injuries in India⁵. Though they compromise 12 % of the body surface, their injuries are disproportionately represented⁶. Appropriate and timely management of these injuries is critical. Unaddressed hemorrhage can result in shock, unnoticed hypothermia and coagulopathy. There has been many reappraisal about negative explorations of the neck in stab injuries of the same but the potential benefit of saving the life of the patient weighs over the negative neck explorations⁷. Re explorations may also be required as vital structures closely packed, making their injuries difficult to be recognized. Re exploration is performed for persistent shock, profuse bleeding, uncontrolled sepsis, as well as failure of percutaneous drainage methods.

key principles in management of stab injury of the neck includes

1. Exploration without a delay.
2. Adequate and appropriate incision.
3. Adequate lighting and good exposure.
4. Good anesthesia.
5. Magnification devices such as binocular loupes and microscope for vascular or nerve repair.
6. Re exploration as and when required without hesitation.

Conclusion:-

1. Management of stab injuries of the neck within 8 hours gives the best result for airway, voice and bleeding.
2. Aggressive surgery with good exploration and thorough examination of vital structures is indicated to prevent the complications such as rebleeding, hoarseness, and fistula formation and infection.
3. Successful outcomes can be expected in patients in whom proper surgical repair has been done.

Future:-

1. The use of these rapidly developing endovascular techniques for the treatment of subclinical injuries in the neck.
2. Use of couplers for anastomotic repair of the veins.
3. Advent of fibrin glue for closing the small rents and wounds in vessels.

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