CASE REPORT

Stab in the neck presented with tension pneumothorax

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Abstract

Objective: Stab in the neck has very high mortality due to presence of arch of aorta its major branches as well as major venous channel, one should have high index of suspicion to diagnose such major vascular injuries.

Case Report: We present a case of 31 year old male who presented to Emergency Department, collapsed with stab right side of supraclavicular area with massive bleeding, dilated neck vein, hypotension, & tachycardia. On examination, there was absent breathing sound on the right side of chest. Therefore, urgent IV cannula placed in the 2nd intercostal space & intercostal drainage tube placed in 5th intercostal space. Within 30 minutes 1,200 cc of blood came via intercostal drainage and within next 30 minutess further 500 cc of blood was drained in the ICD. Therefore, patient was rushed to the operation room and urgent thoracotomy done. There was profuse bleeding from 2nd intercostal vessels and 3 cm rent was found in the right lung which was controlled with interrupted sutures and surgecle. The bleeding in the neck controlled with balloon of Foleys catheter. Slowly patient recovered and thoracotomy was closed and patient was managed in ICU.

Conclusion: One should have high index of suspicion to diagnose and manage such emergencies which present with massive haemo-pneumothorax.

Keywords: Emergency thoracotomy, stab in the neck, tension pneumothorax, massive haemothorax

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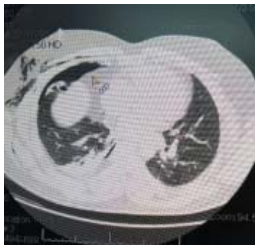
Introduction:

Penetrating neck injuries are uncommon. The neck has many important structures so trauma to the neck causes significant morbidity and mortality. A patient who has penetrating trauma neck should be examined carefully in the Emergency department and if possible damaged tissue and organs should be preserved. The neck contains many important vascular, respiratory, digestive and neural structures. So penetrating neck trauma can cause significant morbidity and mortality.[1,2] The skeletal system does not protect the neck like it performs in the other areas of the body.[3]

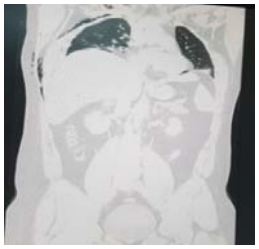
Case Report:

This 31 years old male presented to Emergency department with history of stab in the neck in right supraclavicular area with profuse bleeding. Patient was dyspneic and tachycardiac. On examination he had dilated neck veins and absent breath sounds on the right side of the chest. We had to decompress the tension pneumothorax by inserting a wide bore cannula in the 2nd intercostal space and subsequently Right intercostal drain was inserted in the 5th Intercostal space. Within half and hour ICD drained 1,200 ml of blood and in the next half an hour there was further 500 ml of blood present in the drainage bottle.

Therefore the patient was urgently pushed to operating theatre after giving I.V fluids and O-ve blood and urgent thoracotomy done

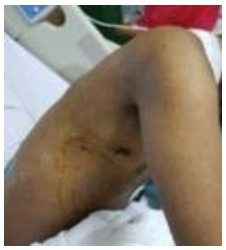


CT Axial view showing pneumnothorax and surgical emphysema



CT of the chest saggital view showing pneumothorax and surgical emphysema

Another CT Scan showing pnemothorax and surgical emphysema



The patient fully recovered from thoractomy

The finding at thoracotomy was gush of blood from 2nd intercostal space. The bleeding from the 2nd intercostal space was controlled with Interrupted sutures and surgicel.

The bleeding from supraclavicular area was controlled with pressure and inflated bulb of Foleys catheter. Thoracotomy wound closed after putting 2 drains in the thoracic cavity.

Patient was stabilized with warm saline and blood and patient was shifted to ICU.

The patient showed slow recovery. The patient was transfused Packed red cells and FFP. The body temperature was maintained using electrical heater and warm suit.

Patient was kept in ICU for 5 days and extubated on the 6th post-operative day and shifted to the surgical ward on the 8th day. Patient was advised to continue chest physio. He was discharged home on the 11th post-op day

Discussion:

The stab in the neck is a urgent emergency, as many vital structres, great vassels passes through this limited space. Therefore either penetrating injury, or blunt trauma can lead to devastating effect on the life.

There is mortality of 3-6% in the civilian subjects.[4-5] A study showed mortality rate of 11% in World War-I.[4] The mechanism of penetration is important for understanding the extent of the damage. The knife and gunshot wounds are the commonest cause of penetrating neck injuries. A stab wound causes 1-2% and gunshots 5-10% and rifle cause 50% of deaths in the penetrating neck trauma.[6] Major arterial and venous injuries are the most common cause of death.[7]

These patients should be examined and managed according to Advanced Trauma Life Support (ATLS) protocol. A primary survey should be performed consisting of Airway, Breathing, Circulation (ABCs). It is not an easy decision to carry out neck exploration. With current advances in diagnostic capabilities entire management has been changed regarding penetrating neck injuries.[8] Selective management is advised in the form of observation and checking major arterial and venous injuries, is now the most popular acceptable practice in stable patients with neck trauma.[9]

Tension pneumothorax is frequently a difficult clinical diagnosis encountered in emergency situations.[10] Classically presents with Beck's triad which is comprised of Distended neck veins, hypotension and absent breath sounds on the affected side. Our patient also presented with classical picture of Beck's triad. Initially a wide bore cannula was placed in 2nd intercostal space followed by Intercostal drain placement in the 5th Intercostal space. The patient subsequently underwent thoractomy and haemostatis achieved by intrupted sutures.

Conclusion:

The stab in the neck causing tensin pnemothorax and massive haemothorax is uncommon problem. One should have high index of suspicion to diagnose such clinical entity. Timely management with urgent surgical intervention will help in decreasing the morbidity and mortality in such cases.

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Role and contribution of authors:

Dr. Sultan Al Amri, collected the data, references and wrote the initial writeup

Dr. Yasser Muhammad Hussain Al Khalifa, helped in collecting references and in discussion writing.

Dr. Bawa Dauda Danial, helped in collecting the data and references and in discusison writing.

Dr Sheikh M Muddasir, collected the data and helped in initial writeup

Dr. Essam Mohammad Al Sayed, helped in writing the introduction and discussion

Dr. Medhat Mustafa Hagral, went through the article and helped in discussion and conclusion writing

Dr. Fawzy Al Naseer, critcally review the article and advise modiification in the introduction and discussion writing

Dr Saeed Abdallah Al Ghamdi, critically review the article and made the final changes in introduction, discussion and conclusion writing.

Dr. Saleem Abdul Sattar Khan, went through the article and made the necessary changes.

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