Clinical Images and Case Reports Journal

Case Report | Vol 6 Iss 1

Stab Wound in Left Chest in a 16 Years Old Male with Cardiopulmonary Injury: A Case Report

Ahmad Reza Shahraki*

General Surgeon, Assistant Professor, Department of Surgery, Zahedan Medical Faculty, Zahedan University of Medical Sciences and Health Services, Zahedan, Iran

***Corresponding author:** Ahmad Reza Shahraki, General Surgeon, Assistant Professor, Department of Surgery, Zahedan Medical Faculty, Zahedan University of Medical Sciences and Health Services, Zahedan, Iran. E-mail: a.r_sh@yahoo.com

Received: January 03, 2024; **Accepted:** January 20, 2024; **Published:** February 05, 2024

Abstract

This case report highlights that in patients with acute chest stab wounds, urgent detection of injured organs is mandatory and can be performed by radiography, computed tomography, angiography, or echocardiography; although in a hemodynamically unstable patient, an early thoracotomy is preferable. Major thoracic stab wounds are spectacular and often lethal. Our case has stab wound in left chest with throughout laceration and lung contusion and perforated heart pericardium. This case report highlights that in patients with acute chest stab wounds, urgent detection of injured organs is mandatory and can be performed by radiography, computed tomography, angiography, or echocardiography; although in a hemodynamically unstable patient, an early thoracotomy is preferable.

Keywords: Lung injury; Hemopneumothorax; Thoracic injuries; Wounds; Stab

Background

Traditionally, stable patients with penetrating chest trauma who have no other indications for surgery are observed in the emergency department. X-rays are taken upon admittance and 6 hours after admittance [1,2] and unstable patient should be under surgery [14]. Motor vehicles accidents, falls, and crush injuries commonly cause chest trauma. Isolated penetrating injuries are rare and usually due to gunshot or stab wounds [3,4]. In this case we have a perforation throughout hole in lung and pericardium but fortunately the heart was clear.

Case Presentation

A 16 year old boy with a large laceration in left chest was admit and because of severe distress bring to operation room. At first, we locate a chest tube on this chest side, but because of irregular heart rates we do open Thoracotomy. We find throughout hole and lung contusion that repaired (Figure 1 and 2).

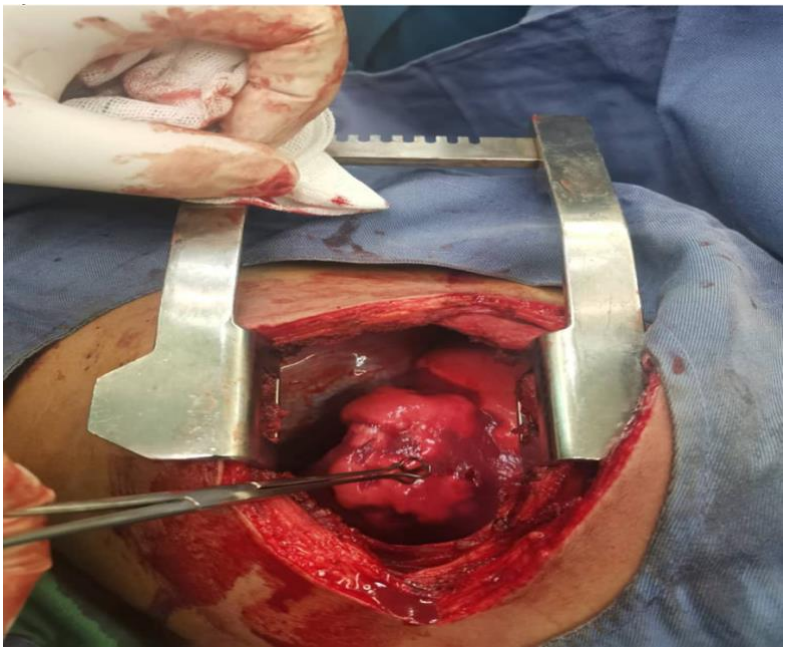

Figure 1: Throughout hole and lung contusion.

After that we check heart and big vessels that noticed the pericardium was injured but heart was clear in shape.

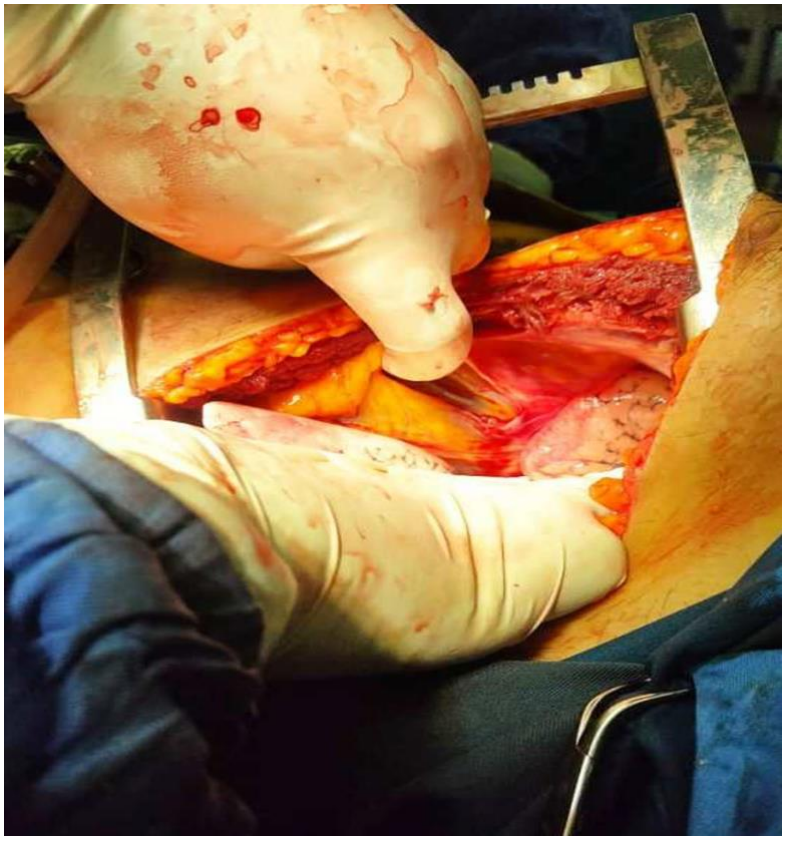

Figure 2: Perforated pericardium.

After surgery we locate chest tube and 4 days after admission, we discharge our patient healthy.

Conclusion

There are several reports of stab wounds caused by knives. Cases of heart or other internal organ damage most often occur in males and are combined with other injuries such as hemopneumothorax [3-6] and fractures. Mortality for perforating thorax trauma ranges from 15% to 77% according to the magnitude of the trauma and number of damaged organs or vessels involved. A multidisciplinary approach and early surgery has been found to correlate with a better outcome [7,8]. This case report highlights that in patients with acute chest stab wounds, urgent detection of injured organs is mandatory and can be performed by radiography, computed tomography, angiography, or echocardiography; although in a thermodynamically unstable patient, an early thoracotomy is preferable [4]. Major thoracic stab wounds are spectacular and often lethal [10]. An important issue for emergency department management of stable patients with penetrating chest traumas is the interval of time between X-rays for active detection of late hemothorax and pneumothorax [11]. As other papers and articles discussing the effectiveness of diagnostic imaging such as X-rays and CT-scans for patients with penetrating thoracic trauma have made clear, X-rays continue to be the diagnostic method of choice [12,13].

REFERENCES

1. Livingston DH, Hauser CJ. Chest wall and lung in: Trauma, 6th ed. McGraw-Hill Medical: New York. 2008; 525-552.
2. Kerr T, Sood R, Buckman RF, et al. Prospective trial of the 6 hours rule in stab wounds of the chest. Surgery, Gynecology and Obstetrics. 1989; 169: 223-225.
3. Rossbach MM, Johnson SB, Gomez MA, et al. Management of major tracheobronchial injuries: A 28-year experience. Ann Thorac Surg. 1998; 65: 182-186.
4. Thomas MO, Ogunleye EO. Penetrating chest trauma in Nigeria. Asian Cardiovasc Thorac Ann. 2005; 13: 103-106.
5. Goniewicz M, Peryga P and Piejak T. The stabbed wounds as a cause of injuries of different parts of the body. Ann Univ Mariae Curie Sklodowka Med. 2004; 59: 193-199.
6. Moreno-Martı´nez FL, Lagomasino Hidalgo AL, Chao Garcı´a JL, et al. Penetrating foreign body in the left ventricle with undetected chronic evolution. Arch Cardiol Mex. 2009; 79: 46-50.
7. Tominaga GT, Waxman K, Scannell G, et al. Emergency thoracotomy with lung resection following trauma. Am Surg. 1993; 59: 834-837.
8. Demirhan R, Onan B, Oz K. Comprehensive analysis of 4205 patients with chest trauma: A 10-year experience. Interact Cardiovasc Thorac Surg. 2009; 9: 450-453.
9. Shorr RM, Crittenden M, Indeck M, et al. Blunt thoracic trauma: Analysis of 515 patients. Ann Surg. 1987; 206: 200-205.
10. Carlo Zebele, Monica Gianoli, Ted Elenbaas, et al. An unusual case of left chest stab wound. Asian Cardiovascular and Thoracic Annals. 19: 349-351.
11. Gimar Helena Facundo, Stella Isabel Martinez, Carlos Carvajal. Treatment of Stable Patients with Penetrating Chest Trauma Caused by Stab Wounds: Three vs six Hours Follow-up.
12. Magnotti L, Weinberg JA, Schroeppel TJ, et al. Initial chest CT obviates the need for repeat chest radiograph after penetrating thoracic trauma. The American Surgeon. 2007; 73: 569-573.

13. Plurad D, Green D, Demetriades D, et al. The increasing use of chest computed tomography for trauma: is it being overutilized? J Trauma. 2007; 62: 631-635.
14. John WV, Cordice Jr, Jose Cabezon. Chest trauma with pneumothorax and hemothorax Review of experience with 502 cases. Journal of Thoracic and Cardiovascular Surgery. 1965; 50: 3.