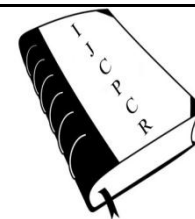




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### A CONSERVATIVE APPROACH TO PENETRATING CHEST INJURY WITH “SUCKING CHEST WOUND”

Chirag Doshi\*, Amit Bhuva, Tanay Shah, R.D Patel, A.B Amin, P.N Kantharia

Department of General Surgery, BJ Medical College, Ahmedabad, India.

#### ABSTRACT

Penetrating injuries to the chest present a frequent and challenging problem. The majority of these injuries can be managed non operatively. The selection of the patients for surgery or conservative approach can be made by clinical examinations and appropriate investigations. We present a case of penetrating stab wound to the chest of a 20year old man treated with conservative approach.

**Key words:** Chest trauma, Penetrating injury, Conservative approach, Open pneumothorax.

#### INTRODUCTION

Chest trauma is the second most common cause of death after head injury and it constitute 20% of all trauma death. It can be of blunt or penetrating type. About 85% can be managed conservatively with initial examinations, resuscitation and clinical monitoring. Rest 15% require surgical options like thoracotomy, VATS(video-assisted thoacoscopy surgery),Stapled pulmonary trachotomy etc.

#### CASE REPORT

A 20 year old man presented to the emergency ward with chief complaint of breathlessness and respiratory distress. He was conscious with GCS 15/15 and haemodynamically stable with B.P 110/70mm of hg, pulse-96/min and SPO2 88%.On primary survey there was a stab wound of 6\*3\*3cm on the right side of chest below nipple. Lung tissue could be seen with air bubbles coming out provisionally it looked like “Sucking chest wound” or Open pneumothorax .Initial resuscitation with stabilizing the airway, breathing and circulation was done. On investigations it was found to be Pneumothorax on right side and multiple rib fractures in chest X-ray and on HRCT it was found to be Pneumothorax with Lung contusion and laceration on right side. Since the patient was hemodynamically stable and there was no Flail chest so we

decided to do a Tube thoracostomy with ICD in the 5<sup>th</sup> intercostal space in mid axillary line on right side and closed the wound in two layers under local anaesthesia. Patient was closely monitored for vitals and ICD output which was 300ml sero haemorrhagic in 24hours.Post procedure his stay was uneventful and was discharged after 7days when the pneumothorax was resolved.

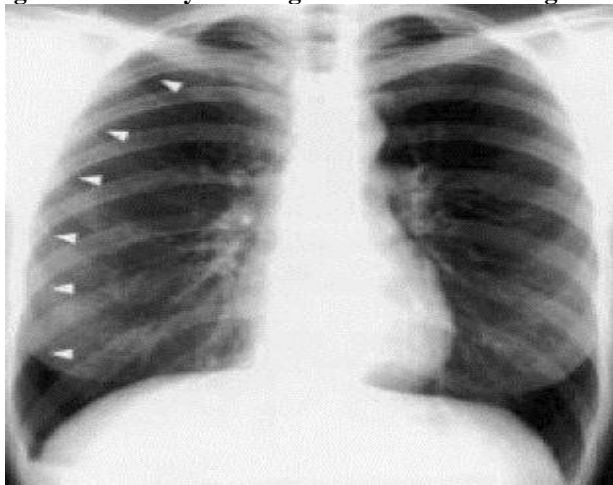
#### DISCUSSION

The primary survey of chest trauma is very crucial and the six immediate cause of death like Cardiac tamponade, Tension pneumothorax, Open pneumo thorax, Tracheal disruption, Hemothorax and Airway obstruction should be identified. The indications for surgical intervention like Thoracotomy include significant initial >1000ml output or ongoing hemorrhage of >200ml/hr for 3 consecutive hours by ICD, Massive hemothorax, great vessel injury, tracheal injury, massive air leaks, pericardial tamponade and esophageal perforation. The overall mortality rate reported in the literature for patients with pulmonary injuries ranges from 1.7% to 37%.The current indications of emergency thoracotomy are salvageable cardiac arrest with <15min of prehospital CPR in penetrating chest trauma and <5min in blunt trauma or

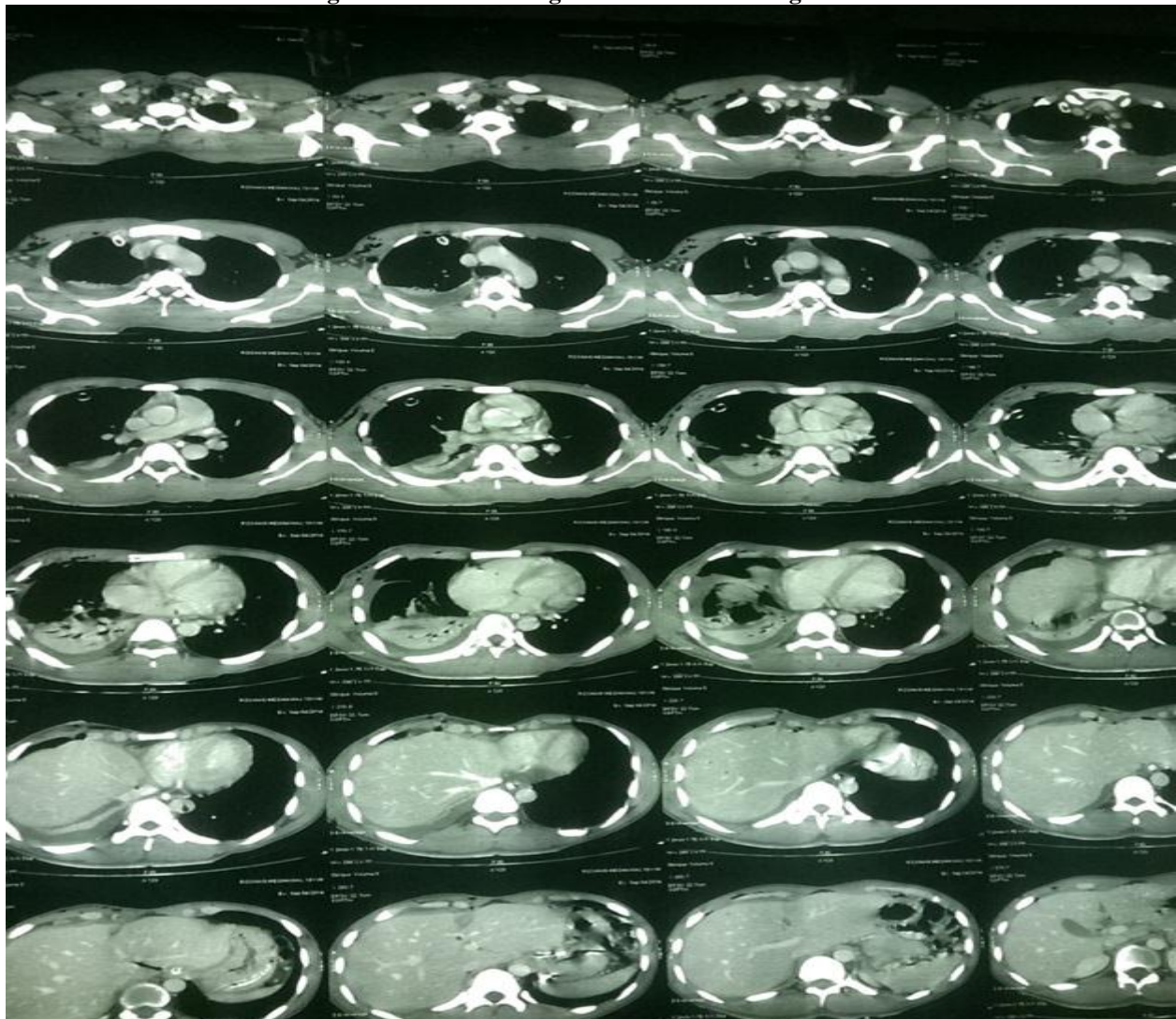
severe persistent hypotension SBP <60mmhg due to Cardiac tamponade and hemorrhage. The injury scoring

system by the American association for surgery of trauma helps in making crucial decisions on management.

**Fig 1. Chest X ray Showing Pneumothorax on Right Side**



**Fig 2. CT Scan Showing Pneumothorax on Right Side**



**Fig 3. Photograph of the Stab Wound on the Right Side**



**Fig 4. Condition on Discharge**



### CONCLUSION

Pulmonary injuries requiring thoracotomy are uncommon even in busy urban trauma centres. Simpler surgical techniques with tube thoracostomy are frequently used for their management. Stapled pulmonary

tracheotomy has become the most frequently used lung sparing technique. Despite of the surgical options initial resuscitation and close clinical monitoring is favoured considering the high mortality rates of surgery like thoracotomy.

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