



ANALYTICAL STUDY OF COMPLICATION IN CHEST TRAUMA PATIENTS IN TIRUNELVELI MEDICAL COLLEGE HOSPITAL

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ABSTRACT Chest Injury Patients With Haemothorax, Haemo-Pneumothorax are treated by intercostal Drainage Procedure. Patients morbidity, mortality and complete recovery depends on various factors which has to be analyzed and sorted for correct and effective management

AIM: Study of factors that influence the recovery of chest trauma patients

III. METHODS: Evaluation and follow up of 100 patients, with chest trauma in tirunelveli Medical College Hospital, Cardiothoracic Surgery Department during the year 2018.

DIAGNOSING MODALITIES: X-Ray chest, CT-Chest Plain/contrast, Routine blood CBC evaluation, RFT, Screening for diabetes.

RESULTS(i) Younger the Patients more less the morbidity and mortality (ii) Complication like pyothorax is more common in diabetic patients with chest trauma. (iii) Early intervention of patient with haemothorax by intercostal drainage lead to complete recovery (iv) Late diagnosis and Treatment leads to complication like clotted haemothorax, Pyothorax, leading to surgical intervention.

DISCUSSION(i) patients with positive mental attitude under good counselling do well. (ii) Diabetes to be treated and early intervention by intercostal drainage in case of haemothorax or haemo pneumothorax is essential for good recovery of the patient (ii) Chest physiotherapy using spirometry is a mainstay where patients recover quickly and reduce their stay period in the hospital (iv) surgery is done only in selected few patients eg (a) Emergency thoracotomy was done for severe bleeding inside thorax due to tear of intercostal vessel - one patients (b) Elective thoracotomy done for patient 7 Patients who had complication like clotted haemothorax & Pyothorax.

CONCLUSION: Positive attitude of patients, good chest physiotherapy, early diagnosis appropriate antibiotics and control of diabetes reduces morbidity and mortality of chest trauma patients.

KEYWORDS : Chest injury, Hemothorax, Pneumothorax

INTRODUCTION

Worldwide, trauma is the leading cause of death. 66 percent of patients who have a chest injury have different types of severities from a minor rib fracture to penetrating heart injury or disruption of tracheobronchial tree. 90% incidence of chest injury is due to blunt chest trauma, of which surgical intervention is required for less than 10% of incidence. It is the second highest cause mortality following the head injury, which signifies the role of initial management. Large number of these mortalities can be prevented by prompt diagnosis and treatment. What is the thoracic surgeons role in the managing a chest trauma in severely injured patients? When does a thoracic surgeon comes in to play? Is there a chance for minimal invasive procedures during the management of severely injured patients? We would like to demonstrate how the specific knowledge of thoracic surgeons could help in the management of trauma patients with two case reports: Haemothorax in Chest Injury Patients, Haemo-Pneumothorax managed by intercostal Drainage. Various factors influence the morbidity, mortality and complete recovery of the patient which has to be analyzed and sorted for an effective treatment. Clinical examination of the thorax (respiratory movements and quality of breathing) and breathing assessment are needed to find major thoracic injuries such as open pneumothorax, tension pneumothorax, massive haemothorax, fail chest and pulmonary contusion. Clinical examination especially auscultation [sensitivity 90%, specificity 98% (5)] to find whether a tension pneumothorax is present. Pneumothorax when diagnosed may require immediate management, by a needle decompression of the pleural space (6). Should this not be enough or there is presence of pneumothorax, chest tube drainage is needed. A major tension pneumothorax can be ruled out when there is absence of hypoventilation during auscultation, or thoracic pain in otherwise stable patient.

Repeated prompt examination is necessary to avoid omission of progressing pneumothorax. As tension pneumothorax is known to be the most frequent reversible cause of death in trauma patients with cardiac arrest (7-9).

AIM : Study of factors that influence the recovery of chest trauma patients

METHODS: Study design: Cross sectional descriptive study.

Study period: January 2018 to December 2018. Study population: Evaluation and follow up of 100 patients, with chest trauma in tirunelveli Medical College Hospital, Cardiothoracic Surgery Department X-Ray chest, CT-Chest Plain/contrast, Routine blood CBC evaluation, RFT, Screening for diabetes. Patients were given counselling before treatment and explained about the procedure to be done on them and the possible outcome of the treatment and the complications likely to occur. Relatives are also advised to adhere to strict monitoring of patients and nutritional support.

RESULTS: Total number of patients: 100 patients who suffered various types of chest injury included in the study. Male: 74, Female: 20, Children: 6. No of Diabetic patients: 36 male and 6 female patients.

Table:1 Age Group

S. no	Gender	No of Cases	12-30 yrs	30-60 yrs	> 60 yrs	Diabetic Status	Complication
1.	Male	74	34	32	8	36	3/Clotted Haemothorax 4 / Pyothorax
2.	Female	20	6	10	4	6	1 Pyothorax
3.	Children < 12yrs)	6	-	-	-	-	-

Table:2 Complications

S.No	Gender	Complication	Case No
1.	Male	Clotted Haemothorax	3
		Pyothorax	4
2.	Female	Pyothorax	1

Table:3 Age factor / complications

S.No	Age factor / Complication			
1.	Clotted Haemothorax	30-60 Yrs	2	> 60 Yrs 1 Diabetic Status 1
2.	Pyothorax	3	2	4

(i) Younger the Patients more less the morbidity and mortality(ii) Complication like pyothorax is more common in diabetic patients with chest trauma.(iii). Early intervention of patient with haemothorax by intercostal drainage lead to complete recovery(iv) Late diagnosis and Treatment leads to complication like clotted haemothorax, Pyothorax, leading to surgical intervention

DISCUSSION: Repeated of clinical examination in primary survey with necessary information on the mechanism of thoracic injury will provide information on potential severity of the trauma (10). Contrast-enhanced CT scan is recommended when the extent of trauma cannot be defined because the sensitivity for a chest X-ray is only 58.3% in emergency.. Thoracic ultrasound examination is valid when there is no role for CT scan , when compared to chest X-ray it has equivalent sensitivity and specificity for diagnosing pneumothorax. USG during emergency is also a reliable method to exclude pleural/pericardial effusion .Chest tube drainage is required when pneumothorax is evident, progressive or when the patient is on mechanical ventilation . Large bore chest tubes compared with smaller chest tube does not have any advantage in treatment of severely injured patients. Which incision for emergency thoracic surgical procedure? Anterolateral thoracotomy is usually recommended in the 4–6th intercostal space, although in 20% of the patients it is difficult to visualize all lesions so it must be modified . For better exposition of thoracic organs Clamshell (transverse sternotomy and bilateral anterolateral thoracotomy) or hemi-clamshell (longitudinal sternotomy and anterolateral thoracotomy) can be done . The requirement for emergency room thoracotomy is very rare, anterolateral thoracotomy helps a potentially lifesaving measure (clamping of a great vessel) during compelling situation before proceeding to the operation theatre .(i) patients with positive mental attitude under good counselling do well.(ii) Diabetes to be treated and early intervention by intercostal drainage in case of haemothorax or haemo - pneumothorax is essential for good recovery of the patient(iii) Chest physiotherapy using sphyrometry is a mainstay where patients recover quickly and reduce their stay period in the hospital (iv) surgery is done only in selected few patients eg(a)Emergency thoracotomy was done for severe bleeding inside thorax due to tear of intercostal vessel - one patients(b)Elective thoracotomy done for patient 7 Patients who had complication like clotted haemothorax & Pyothorax .

CONCLUSION:

Positive attitude of patients, good chest physiotherapy, early diagnosis appropriate antibiotics and control of diabetes reduces morbidity and mortality of chest trauma patients.

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