



BLUNT ABDOMINAL TRAUMA - CONSERVATIVE Vs OPERATIVE MANAGEMENT A RETROSPECTIVE STUDY

General Surgery

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ABSTRACT

BACKGROUND

Blunt abdominal trauma is very common in day to day practice .It is associated with high morbidity and mortality. Timely diagnosis and early intervention is key to successful management.

We have studied 25 patients of blunt abdominal trauma including trauma to liver,spleen,pancreas,kidney,urinary bladder.

AIMS AND OBJECTIVE

This study was done to analysed patient profile and their management.

MATERIALS AND METHODS

25 patients, who admitted to civil hospital Ahmedabad were studied retrospectively. Age and gender distribution,mode of injury,clinical presentation,solid organ injured,investigations,hospital stay,conservative vs operative management and their outcome were studied.

RESULTS

Out of 25 patients 22 were male and 3 were female.80% patients are from 20–40 years age with mean age 26. Majority are due to road traffic accidents and abdominal pain is most common presentation. Liver and spleen are two most common organ involved.80% patients managed conservatively and remaining undergone laparotomy. Average length of hospital stay is 15 days for patients managed conservatively and 18 days for patients managed operatively.

CONCLUSIONS

Conservative management is safer and reliable mode of management in hemodynamically stable blunt abdominal trauma patients.

KEYWORDS

INTRODUCTION

- Hemoperitoneum means blood in peritoneal cavity. Overall most common cause of hemoperitoneum is penetrating trauma by means of stab and firearm injuries. Although, in civilian population, blunt abdominal trauma is most common cause of hemoperitoneum with road traffic accidents being most common cause.
- Isolated blunt abdominal trauma is usually very rare and most of the time it is associated with other injuries such as head injuries, chest trauma and extremities fracture.
- In spite of the best techniques and advances in diagnostic and supportive care, the morbidity and mortality remains at large. The reason for this could be due to the interval between trauma and hospitalization, delay in diagnosis, inadequate and lack of appropriate surgical treatment, post-operative complications and associated trauma especially to head, thorax and extremities. Other factors which influence outcome in solid organ injuries due to blunt abdominal trauma include hemodynamic instability, associated injuries to other parts of body and Glasgow coma scale.
- In view of increasing industrialization and vehicle, incidence of blunt abdominal trauma is also increasing with RTA being main cause. This study was carried out in civil hospital Ahmedabad to study the age population at risk, common causes of blunt abdominal trauma, various mode of presentation, diagnostic modalities and management of blunt abdominal trauma.

MATERIAL AND METHOD

- 25 cases blunt abdominal trauma admitted during period of February 2018 to July 2019 in civil hospital Ahmedabad were studied.

Inclusion Criteria

- 1.Hemodynamically stable patient after initial resuscitation with systolic blood pressure of 90 mm of Hg or more.
2. Patient with hemoperitoneum having solid organ injury in blunt trauma to abdomen.
3. Patients in age group of 2 to 60 years with no sex preference.

Exclusion Criteria

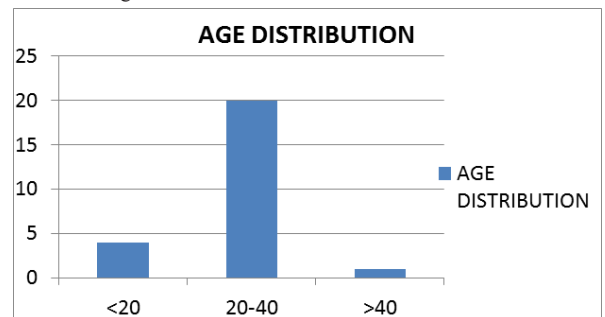
1. Hemodynamically unstable patient with systolic blood pressure of less than 90 mm of Hg despite of resuscitation.
 2. Patients with penetrating abdominal injuries.
 3. X-ray abdomen standing showing free gas under diaphragm.
- After initial resuscitation all patient were investigated by history,

physical examination , routine blood investigation (CBC, RFT, LFT and PT INR , HIV and HBsAG), radiological imaging (Chest X-ray, standing Abdominal X ray) and USG abdominal pelvis and thorax.

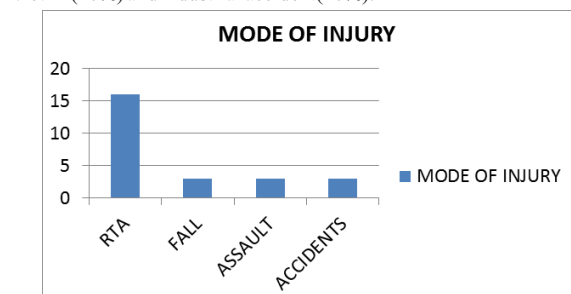
CT scan was done in 5 patients.

RESULTS

- Out of 25 patients 22 were male and 3 were female . Age distribution is shown in figure 1.



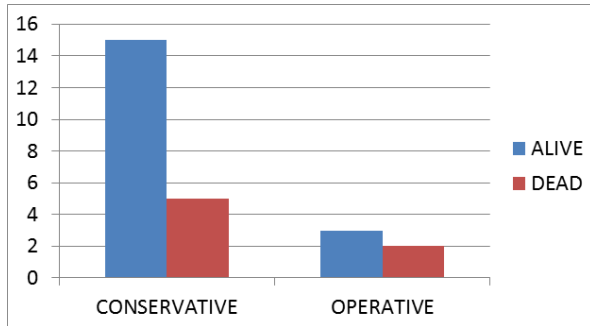
- Road traffic accidents are major culprit for solid organ injuries in these patients (70%) followed by fall from height (10%) and assault on victim (10%) and industrial accident(10%).



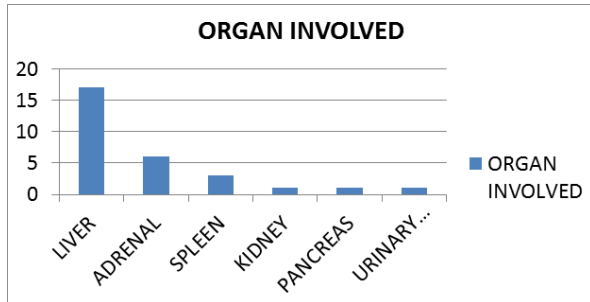
- Latent period:-more than half patients were brought for treatment within 5 hours of injury while 36% patients were brought for treatment within 24 hours.

- 80% presented with abdominal pain while 20% patient did not have any abdominal symptoms.
- 80% patients were between age 20 and 40 years. 16% patients were below 20 years and 4% were above 40 years.
- 80% were managed conservatively and 20% were operated.
- In conservative management mortality was 25% and in operative management mortality was 40%. But most of this patients died because of associated injuries such as flail chest and other extremity fracture.
- Average length of hospital stay was 15 days in case of conservative management and 18 days for operative management.

MORTALITY



ORGAN INVOLVEMENT



DISCUSSION

• In our study 25 patients of blunt abdominal trauma were retrospectively studied who were admitted in civil hospital Ahmedabad. Most of the patients were male in age group of 20-40 year. Most common cause of blunt abdominal trauma was road traffic accident. This shows that young male is at high risk of having blunt abdominal trauma especially due to RTA. It can be prevented to some extent by simply following traffic rules. Alcohol is also a factor that needs to be considered.

• Proper management of these patients requires careful initial evaluation followed by a period of observation. Diagnostic procedures should be limited to those examinations that have proven effective in BAT and should not delay laparotomy in an unstable patient. One should not jeopardize the care of a seriously injured patient by obtaining examinations of low yield. Utilization of this time to initiate resuscitative measures and to prepare for abdominal exploration is of much greater benefit to the patient.

• Focused abdominal sonar for trauma (FAST) is a technique whereby ultrasound (sonar) imaging is used to assess the torso for the presence of free fluid, either in the abdominal cavity, and is extended into the thoracic cavities and pericardium (eFAST). eFAST is accurate at detecting >100 mL of free blood; however, it is very operator dependent and, especially if the patient is very obese or the bowel is full of gas, it may be unreliable. Hollow viscus injury and solid organ injury are difficult to diagnose, even in experienced hands, as small amounts of gas or fluid are difficult to assess, and eFAST a low sensitivity (29-35%) for organ injury without haemoperitoneum. eFAST is also unreliable for excluding injury in penetrating trauma. If there is doubt, the eFAST examination can be repeated.

• All patients were diagnosed by ultrasonography of abdomen only in 5 patient CT scan was needed to confirm diagnosis and to grade injury.

• 20 out of 25 patients were managed conservatively and patient were monitored regularly for vitals, AG charting and per abdominal

examination.

• The patient who has sustained blunt abdominal trauma may have sustained injury simultaneously to other systems, and it is particularly important to examine for injuries of the head, thorax, and extremities. Care of the injuries in any of these systems may take precedence over the abdominal trauma. Failure to recognize an extra-abdominal injury may contribute to the patient's death, when a relatively simple procedure might otherwise have saved the patient's life.

• 5 out of 20 patients who were managed conservatively, died but their cause of death was mainly because of associated thoracic injury rather than blunt abdominal trauma.

• 5 out of 25 patients were operated. All operated patients had significant positive finding.

• Non operative management is gaining increasing acceptance mainly because of the easy availability of better imaging modalities like Ultrasound and CT scan. With the aid of CT scan it is possible to accurately grade the extent of injury to solid organs like liver and spleen. Minor lacerations and capsular tears, difficult to diagnose clinically can be easily demonstrated by CT scan and selected for non-operative management.

• Conservative management continues to have high success rate and with reduction in number of days for hospital stay in comparison to operative management. Majority of patients who were treated conservatively had hospital stay of 10-14 days. The average duration of stay in conservative management was 15 days while in operative management it was 18 days. As seen above conservative management decreases the hospital stay hence morbidity. Many patients had associated injuries, which might have contributed to length of hospital stay.

CONCLUSION

• Non-penetrating trauma abdomen is a major cause of morbidity and mortality in young and economically productive age-group. Road traffic accident is the major causative agent. Availability of emergency resuscitation and trauma care services, especially near highways helps in lowering the mortality. With investigations like ultrasonography and computed tomography scan, there is a paradigm shift in the management of non-penetrating trauma abdomen from operative to non-operative mode. Conservative line of management is safe and effective in a hemodynamically stable patient without any signs of peritonitis.

REFERENCES

1. Sabiston Book Of Surgery