

Retrospective Study of Blunt Injury Abdomen at Coimbatore Medical College & Hospital--July 2019 T0 Dec 2019

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Abstract: Blunt injury abdomen is becoming the leading cause of morbidity and mortality in the present decade . A total of twenty five cases of blunt injury were studied. The commonest cause was road traffic accident. The maximum incidence was noted in the 20 to 30 age group in the general population . Majority involved being males comprising about 80% of the cases of blunt injury to the abdomen . The commonest presenting complaint was pain abdomen. Tenderness was the commonest sign. Spleen was the most common organ involved.

Ultrasound(FAST) was the best investigation in the study. Common mode of treatment opted was surgery. Wound infection is the common after surgery for blunt injury abdomen. Septicaemia was the commonest cause of death.

Key Words: Blunt injury abdomen, Road traffic accident, liver laceration, ultrasonography, operative management.

Date of Submission: 06-01-2020

Date of Acceptance: 21-01-2020

I. Introduction:

The incidence of abdominal trauma is on the rise and encountered as one of the leading cause of the acute abdomen in day to day surgical practice. RTA accounts for the majority of the abdominal injuries in emergency department. Fall from height and urban violence was the other most common causes of blunt and the penetrating trauma to this area of the body. Blunt abdominal trauma generally leads to high mortality, according to various studies and case series previously reported. Rapid resuscitation is necessary and plays a vital role in the treatment protocol . Accurate diagnosis, appropriate treatment protocol , close observation along with avoidance of needless surgery is all important.

Management must be individualised a systemic approach to preoperative diagnosis and preparation, intra operative inspection, decision, post operative care and observation for complications is essential for the successful management of individual cases. This study is based on mechanism and pathological basis of abdominal trauma by blunt injury, its diagnosis and management.

A detailed study and analysis of 51 cases of abdominal trauma those admitted in the hospital was undertaken with the review of medical literature

II. Methodology

Source of data: this clinical study was carried out on 51 patients admitted in our hospital with blunt trauma.

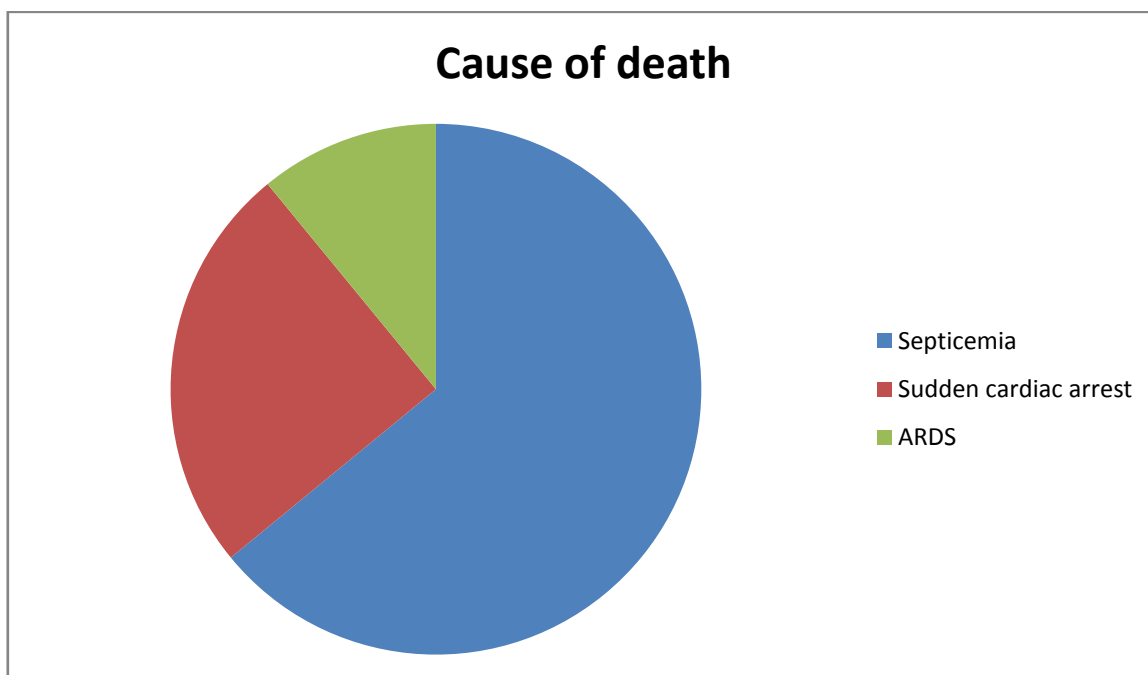
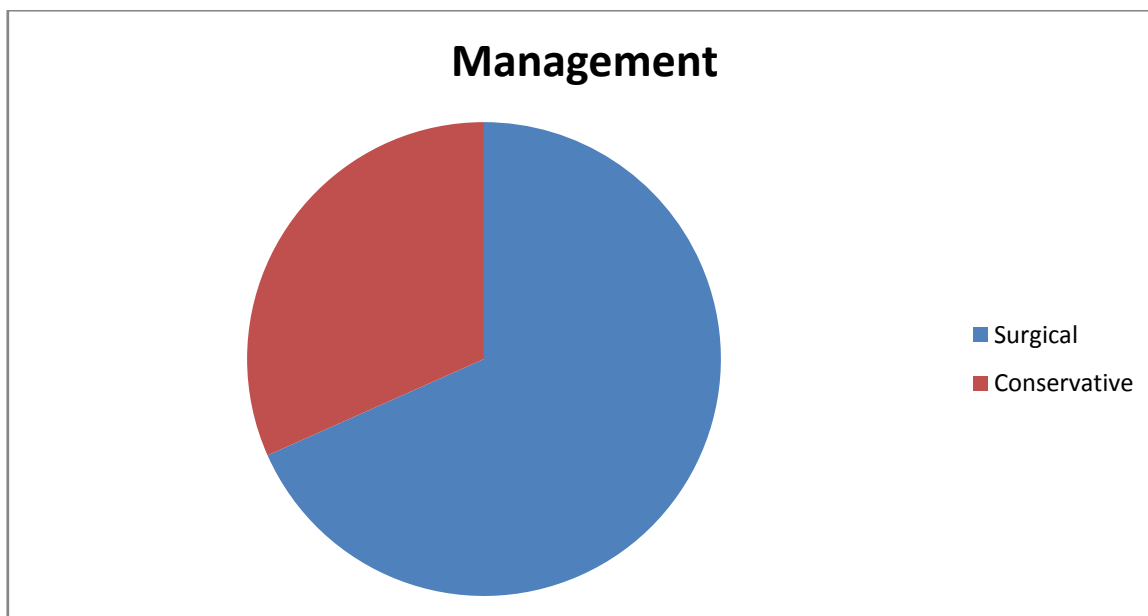
Inclusion criteria: patients admitted with history of blunt trauma due to road traffic accidents, accidental falls,, trauma by blunt objects and assault.

Exclusion criteria: associated with orthopaedic injuries, associated with head injuries, associated with chest injuries, pregnancy.

The patients were selected as per above mentioned criteria, an informed consent was taken, careful history was taken along with thorough physical and general examination. The relevant investigation were done to arrive at correct diagnosis. The patients were operated on emergency basis or wait and watch policy, operative findings were noted. For patients undergoing conservative line of management, Ryles tube aspiration, pulse and blood pressure monitoring, urine output measurement done, analgesics and antibiotics given and patient was put an observation in case of death the cause of death was noted.

Out of 51 cases admitted in poly-trauma care unit of CMCH, 41 cases are male, 10 cases are female.

Out of 51 cases 39 were managed surgically, 12 were managed conservatively.



III. Discussion:

Blunt abdominal trauma is the leading cause of morbidity and mortality in all age groups. Many injuries may not manifest during the initial assessment and treatment period. Hence close monitoring of the patients along with watchful supervision of the vitals and review imaging studies play a vital role in the appropriate diagnosis of the injury.

AGE WISE DISTRIBUTION:

Young males, most of those aged 20-30 years have been reported to be the most frequent victims. In the present study, the maximum number of cases was in the second decade of life. Average age was 25 years.

SEX WISE DISTRIBUTION:

In the present study, 80% were males and 20% were females. Male to female ratio was same compared to other studies like Mohammed Et Al and Tripathi Et Al. Reported ratio of 4.4:1

SYMPTOMS:

In the present study the most common symptom was pain abdomen 96.6%. Abdominal distension was the second most common symptom followed by vomiting and haematuria. Another study by Tripathi also reported pain abdomen in 91% of their patients.

SIGNS:

Out of 25 cases in the present study, 85% had abdominal tenderness at the time of admission, local or generalised guarding was present in 45% of cases. In present study 20% presented with shock out of which 80% has splenic injuries and 18% patients had liver injuries and 5% had bowel perforation. Bowel sounds were absent in 30% of cases.

INJURY AND ADMISSION INTERVAL:

In present study, maximum number of patients 40% were brought to the hospital within 5-10 hours after injury. Delay in hospital admission was reported by Tripathi Et Al.

ADMISSION AND SURGERY INTERVAL:

In the present study, 63 % were managed surgically and the remaining were managed conservatively. Only 15% of cases were operated within 6 hours and the remaining were operated at the interval of 6-12hours.

INVESTIGATIONS:

In the present study, X Ray erect abdomen was done in 98% cases. It detected 20% cases of hollow viscous perforation with accuracy of 100%

Under study Mohapatra Et Al, reported accuracy of X Ray abdomen erect to be 100% detecting hollow viscous perforation. In the present study, USG abdomen was done in most of cases.

Present study FAST was major advantage for unstable patients.

In recent years, **focussed abdominal sonography for trauma** has emerged as a useful diagnostic test in the evaluation of blunt injury abdomen. In addition technology is portable and maybe easily repeated if necessary. In most cases, FAST may be completed within 3-4 minutes.

The minimum threshold for detecting haemoperitoneum is unknown and remains a subject of interest. Kawaguchi and colleagues found that 70ml of blood could be detected, whereas Tiling Et Al found that 30 ml is the minimum requirement for detecting in an ultrasonography.

In present study, FAST detected 100 ml of free fluid which was slightly higher compared to other studies. FAST diagnostic accuracy generally is equal to of DPL. Sensitivity and specificity of FAST range from 85-95%. But in present study FAST was major advantage for unstable patients.

DURATION OF HOSPITAL STAY:

In present study, duration of hospital stay varied from 6-34 days out of which 13% operated patients expired. Others had minimal collections in the peritoneal cavity or admitted for observation.

ORGANS INVOLVED:

The most frequent injured organ in blunt injury abdomen was Liver 40-55%, Spleen 30-35% and the remaining retro peritoneum 5-10%

In present study liver was commonest organ injured. Present study is compared with study of Mousami Et Al, showed Liver was the commonest organ involved (62.27%) and spleen (30.91%) , small intestine (18.8%) and kidney (18.8%) cases.

Spleen was the next most commonly involved solid organ. 20% were managed by operative method and others managed conservatively. Study was comparable to Davis Et Al, which reported 24.7% of cases has splenic injuries out of which 10.7% were operated and 14% were managed conservatively. Mesentery was the third most common injured organ in the present study. Small bowel was next most commonly injured organ. Jejunum, Gall bladder, Large bowel comes in order.

MANAGEMENT:

In present study, 68.33% were managed surgically and 31.66% were managed conservatively. This study is comparable to Mohapatra Et Al, who reported 39% laparotomy rates in their series. Non operative management constituted of nasogastric aspiration, urine output measurement, IV fluids, Analgesics and antibiotics.

POSTOPERATIVE COMPLICATIONS:

In present study wound infection was the most common complication. 58% of cases after undergoing surgery followed by pneumonia, pelvic abscess and intestinal obstruction

Present study is comparable to Jolly Et Al, which showed wound infection in 14% of cases. Another study by Davis Et Al showed wound infection in 15% of cases.

Septicaemia was the most common cause of death. Out of 51 cases, 16 cases ended in mortality. Sudden cardiac death was the cause of death in one and ARDS was the cause of death in other case.

The study was comparable to another study done by Jolly Et Al which showed 10% mortality in their study with septicaemia shock the most common cause of death.

Davis Et Al study showed 15% mortality with septicaemia the most common cause of death.

IV. Conclusion:

Road traffic accidents form the most common mode of injury. Hence measures to be taken to prevent the accidents and care of victims at the accident site. A thorough and repeated clinical examination and appropriate diagnostic investigations lead to successful treatment in these cases.

Early resuscitation, rigorous measures of resuscitation, early diagnosis and decision for surgery, good trauma centres, good radiology and blood bank facilities, careful exploration and perfect technique of surgery and meticulous post operative follow up with all aid in reducing mortality.

In present study we concluded that operative procedure was best method of treatment option if patient is unstable and early laparotomy decreases mortality in blunt trauma patients.

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Dr.T. Srinivasan, et.al. "Retrospective Study of Blunt Injury Abdomen at Coimbatore Medical College & Hospital--July 2019 TO Dec 2019". *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(1), 2020, pp. 24-27.