

## SPECTRUM AND OUTCOME OF BLUNT ABDOMINAL TRAUMA

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### Abstract

**Background:** Blunt abdominal trauma is a leading cause of morbidity and mortality among all age groups. So we evaluate the spectrum and outcome of blunt trauma.

**Methods:** Hospital based prospective study conducted on 100 patients at department of general surgery.

**Results:** Distribution according to type of injury consisted of maximum cases, 84 (84%) of road traffic accidents, 11% cases were of fall from height.

**Conclusions:** Males were pre-dominantly affected. Road traffic accident was the most common cause of injury. Though conservative management is successful in carefully selected patients, operative management remains the main stay of treatment.

**Keywords:** Blunt abdominal trauma, Liver injury, Perforation, Splenic injury

### Introduction

Trauma has been called the neglected disease of modern society, despite its close companionship with man. Trauma is the leading cause of death and disability in developing countries and the most common cause of death under 45 years of age.<sup>1</sup> World over injury is the 7th cause of mortality and abdomen is the third most common injured organ. Abdominal injuries require surgery in about 25% of cases. 85% of abdominal traumas are of blunt character.<sup>2</sup> The spleen and liver are the most commonly injured organs as a result of blunt trauma. Clinical examination alone is inadequate because patients may have altered mental status and distracting injuries.

Initial resuscitation along with focused assessment with sonography in trauma (FAST) and computed tomography (CT) abdomen are very beneficial to detect those patients with minimal and clinically undetectable signs of abdominal injury and are the part of recent management guidelines. Approach to trauma should be systemic and prioritized. About 10% of patients have persistent hypovolemic shock as a result of continuous blood loss in spite of aggressive fluid resuscitation and require an urgent laparotomy. Damage control laparotomy is a life saving procedure for such patients with life-threatening injuries and to control hemorrhage and sepsis. On the other

spectrum, there has been increasing trend towards non operative management (NOM) of blunt trauma amounting to 80% of the cases with failure rates of 2-3%.<sup>3</sup> NOM is a standard protocol for hemodynamically stable solid organ injuries. Pre-hospital transportation, initial assessment, thorough resuscitative measures and correct diagnosis are of utmost importance in trauma management.

### Materials & Method

**Study design:** Hospital based prospective study.

**Sample size:** 100 patients reporting to the gen.Surgery dept. within study duration and eligible as per inclusion criteria was included in the study.

**Inclusion Criteria:** Patients admitted with history of blunt trauma abdomen due to road traffic accidents, accidental falls, trauma by blunt objects and assault attending to Dept. of general Surgery

### Exclusion criteria:

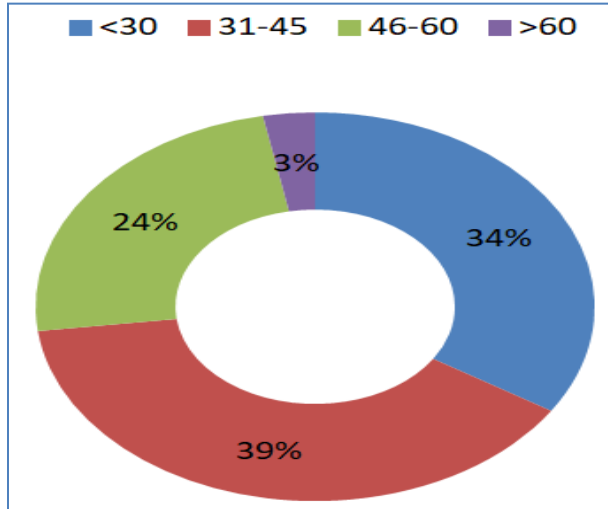
- Associated Orthopaedic Injuries
- Associated With Severe Head Injury
- Associated With Severe Chest Injury
- Pregnancy

### Data analysis:

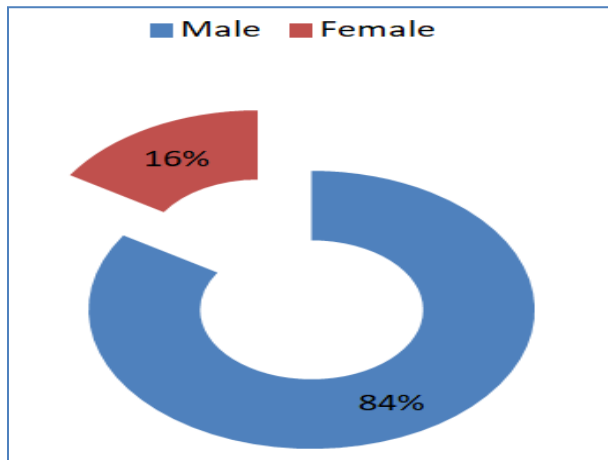
Data was recorded on a Performa. The data analysis was computer based; SPSS-22 was used for analysis.

For categorical variables chi-square test will be used. For continuous variables independent samples's t-test was used.  $p$ -value  $<0.05$  was considered as significant.

## Results



**Graph 1:** Maximum 39.00% cases were 31-45 Yrs age old followed by 34.00% cases were 46-60 Yrs age.



**Graph 2:** 84.00% cases were male and 16.00% cases were female.

**Table 1:** Distribution on the basis of type of injury

Type Of Injury	No of cases
RTA	84(84.00%)
FFH	11(11.00%)
Others	5(5.00%)

Distribution according to type of injury consisted of maximum cases, 84 (84%) of road traffic accidents, 11% cases were of fall from height.

**Table 3:** Distribution according to organ involvement

Organ	No of cases
Liver	26(26.00%)
Kidney	9(9.00%)
Mesentery	12(12.00%)
Spleen	42(42.00%)
Small intestine	7(7.00%)

Spleen was most commonly involve organ.

**Table 3:** Distribution according to management done

MANAGEMENT	No of cases
CONSERVATIVE	78(78.00%)
OPERATIVE	22(22.00%)

Based on the type of management done cases were divided as operative and conservative. Operative management was done in 22patients and 78 patients were managed conservatively.

## Discussion

Distribution according to type of injury consisted of maximum cases, 84 (84%) of road traffic accidents, 11% cases were of fall from height.

Madhumita Mukhopadhyay et al in their study of 47 patients who underwent laparotomy following intestinal injuries from blunt abdominal trauma over a period of 4 years found that the M:F ratio in this study was 8.4:1<sup>3</sup> Similarly John L Kendall et al in a retrospective cohort study of 1169 cases of BAT reported that 66% of the affected individuals were Males<sup>4</sup>

Similar Findings were reported by Khanna et al who found that most common mode of injury in cases of BAT was Road Traffic accidents (57%). In contrast to our study Khanna et al in their study found assault (33%) to be more common than fall from height (15%)<sup>5</sup>

Case distribution according to organ involved consisted of 26 cases of liver injury 24 of these cases were managed conservatively , and only two were operated.42 cases were of splenic injury 16 of which were managed conservatively and two underwent surgery. Similar study by Cox etal showed splenic and hepatic injuries in 46% and 33% patients respectively<sup>6</sup>

There is an increase in trend towards conservative management if the patient is haemodynamically stable. The grade of injury was assessed by USG and CECT and was most of the time managed conservatively. Minor lacerations and capsular tears which are difficult to diagnose clinically can be easily demonstrated in USG and CECT scan and were selected for non-operative management. However the disadvantage of non-operative management is missed injuries resulting in increased morbidity and mortality. Operative intervention is needed in hemodynamically unstable patients who are not responding to aggressive fluid resuscitation and those with significant organ injuries. The common surgeries performed in our patients included splenectomy, primary closure of perforation and resection and anastomosis. Similar surgeries were required in patients of BAT as reported by Wu CL et al AB<sup>7</sup>

### Conclusion

Blunt Abdominal Trauma is one of the important causes of morbidity and mortality in relatively young individuals. Most common mode of injury is road traffic accidents and men are affected predominantly

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