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**Dr. Nilesh Kumar Dehariya**
Assistant Professor, Department of General Surgery, Index Medical College Hospital & Research Centre, Indore, Madhya Pradesh, India

**Dr. Arvind Ghanghoria**
Professor, Department of General Surgery, MGM Medical College & MY Hospital, Indore, Madhya Pradesh, India

**Correspondence**
**Dr. Arvind Ghanghoria**
Professor, Department of General Surgery, MGM Medical College & MY Hospital, Indore, Madhya Pradesh, India

# To study the relationship between mode of injury and clinical presentation in blunt abdominal trauma at MGM medical college & M.Y. hospital, Indore

**Dr. Nilesh Kumar Dehariya and Dr. Arvind Ghanghoria**

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**Abstract**
**Background:** This study carried out in the Department of Surgery, MGM Medical College & M.Y. Hospital Indore both retrospectively and prospectively in patients with Blunt abdominal trauma.
**Result:** 35 pateints out of 250 patients i.e.14% of patients with BAT came to hospital with feature of shock was considered as B.P. below 90mm of Hg. Maximun numbers of patients (88) were presented with P/A Guarding, tenderness localised at site of BAT i.e 35.2%51 patients out of 250 patients i.e 20.4% presented with head injury and with neurological sign and symptoms like unconciouness, unequal pupil, vomiting etc. There only 50 patients i.e 20% which are presented with respiratory distress as associated complaints. 76 patients i.e 30.4% of BAT presented as pain in abdomen and localised tenderness on clinical examination. Majority of the BAT were accidental in nature comprising 154 cases i.e. 61.6%. Second common injury are fall from height comprises 45 cases i.e. 18% and least common are assault by hard and blunt object and falling hard and blunt object over body comprises 18-18 cases i.e. 7.2 respectively%. In retrospective group accidental cases were 49 i.e. 61.25% in prospective groups accidental cases were 105 i.e. 61.765%. In retrospective group falling hard and blunt object over body comprises 13, cases i.e. 7.6%. In prospective groups assault by hard and blunt object comprises 5 cases i.e. 6.25%.
**Conclusion:** Incidence of blunt abdominal trauma can be reduced by improving the social morale of people especially the younger generation by providing Good education, Preventing Alcohol Abuse, Proper law enforcement and some form of penalty regarding proper vehicle driving. 35 pateints out of 250 patients i.e.14% of patients with BAT came to hospital with feature of shock was considered as B.P. below 90mm of Hg. The BAT were accidental in nature comprising 154 cases i.e. 61.6%. Second common injuries are fall from height comprises 45 cases i.e. 18%.

**Keywords:** Injury, blunt abdominal trauma & clinical

## Introduction
Trauma defines as cellular disruption caused by an exchange with environment energy that is beyond the body resilience.
Blunt abdominal trauma has become frequent in our society. It may be accidental, suicidal and homicidal also however, first one is very frequent, and all can lead to death. Injury by blunt object group include patient who sustained injury due to assault by fists and blows, lathi, iron rods/kicks or received accidental animal kicks over abdomen or got injured due to fall of some heavy object like log, gravel, got buried in mine or had rolled down the stairs or stumbled over some blunt object [1&2].
Patients with apparently minor injuries at the first presentation may turn out to be more severely injured than initially assumed and/or assessed[3]. Failure to identify such patients during the initial assessment can result in under-treatment and constitutes a serious threat to patient safety. Additional insights in the relationship between clinical parameters that are readily available to the clinician at the first presentation and injury severity may be useful to identify patients at risk and to determine monitoring requirements.

## Material & Method
This study carried out in the Department of Surgery, MGM Medical College & M.Y. Hospital Indore both retrospectively and prospectively in patients with Blunt abdominal trauma over the period of for 02 years with co-operation of the staff of (1) Medicolegal section (2) Central record

room and the help of the residents looking after the admitted patients.

The study comprises 02 year prospective study and 3 year of retrospective study covering a period of 03 years. The present study include 250 cases of blunt abdominal trauma admitted to MGM Medical College & M.Y. Hospital Indore.

On admission to hospital patient s name, age, sex, address, registration number, and, date and time of admission, length of delay in treatment taken noted and Nature of weapon also noted.

If patient was conscious and not under the effect of any narcotic drug or alcohol his presenting complaint, detail history and time of trauma noted mainly pain, vomiting, distension of abdomen, hematuria, air hunger etc. exact site of injury was recorded according to region mentioned.

Injury by blunt object group include patient who sustained injury due to assault by fists and blows, lathi, iron rods/kicks or received accidental animal kicks over abdomen or got injured due to fall of some heavy object like log, gravel, got buried in mine or had rolled down the stairs or stumbled over some blunt object.

Patient who reported to hospital with history of blunt abdominal trauma but on examination showed no distant symptoms and sign of abdominal injury and/or give conservative line of treatment, and in due course showed improvement, without any deterioration and not admitted in hospital are excluded from study.

**Inclusion Criteria**

This series includes all homicidal, suicidal and accidental, blunt abdominal trauma. Of those who were admitted, the records were collected from the central record room and ward paper were also studied operative notes.

**Statistical analysis**

Data were analyzed with IBM Software SPSS Version 20.0 & in MS Office Excel Sheet.

**Results**

**Table 1:** Incidence of Clinical Feature

| Clinial presentation | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Total |
|---|---|---|---|---|---|---|---|
| SHOCK | 3 | 4 | 9 | 4 | 12 | 3 | 35 |
| P/A Guarding tenderness | 4 | 15 | 23 | 16 | 20 | 10 | 88 |
| Respiratory distress | 9 | 3 | 9 | 14 | 10 | 5 | 50 |
| Localised tenderness | 11 | 12 | 10 | 18 | 15 | 10 | 76 |
| Neurological sign | 11 | 5 | 4 | 18 | 6 | 7 | 51 |
| Total | 38 | 39 | 55 | 70 | 53 | 35 | 300 |

Table 01 shows that, 35 pateints out of 250 patients i.e.14% of patients with BAT came to hospital with feature of shock was considered as B.P. below 90mm of Hg. Maximun numbers of patients (88) were presented with P/A Guarding, tenderness localised at site of BAT i.e 35.2%51 patients out of 250 patients i.e 20.4% presented with head injury and with neurological sign and symptoms like unconciouness, unequal pupil, vomiting etc. There only 50 patients i.e 20% which are presented with respiratory distress as associated complaints. 76 patients i.e 30.4% of BAT presented as pain in abdomen and localised tenderness on clinical examination.

**Table 2:** Ralative Incidence of Mode

| Year Mode | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Total |
|---|---|---|---|---|---|---|---|
| RTA | 24 | 27 | 20 | 34 | 30 | 19 | 154 |
| Assault | 3 | 5 | 2 | 5 | 2 | 1 | 18 |
| Fall | 7 | 10 | 7 | 7 | 8 | 6 | 45 |
| Fallingblunt object over body | 6 | 4 | -- | 3 | 4 | 1 | 18 |
| Other | 5 | 6 | -- | 5 | 6 | 3 | 25 |
| Total | 35 | 52 | 29 | 54 | 50 | 30 | 250 |

This table no. 02 shows that majority of the BAT were accidental in nature comprising 154 cases i.e. 61.6%. Second common injury are fall from height comprises 45 cases i.e. 18% and least common are assault by hard and blunt object and falling hard and blunt object over body comprises 18-18 cases i.e. 7.2 respectively %. In retrospective group accidental cases were 49 i.e. 61.25% in prospective groups accidental cases were 105 i.e. 61.765%. In retrospective group falling hard and blunt object over body comprises 13, cases i.e. 7.6%. In prospective groups assault by hard and blunt object comprises 5 cases i.e. 6.25%.

**Discussion**

Our study shows that majority of the blunt injury of abdomen were accidental in nature comprising 154 cases i.e. 61.6%. Second common injury are fall from height comprises 45 cases i.e. 18% and least common are assault by hard and blunt object and falling hard and blunt object over body comprises 18-18 cases i.e. 7.2 respectively %.

In retrospective group accidental cases were 49 i.e. 61.25% in prospective groups accidental cases were 105 i.e. 61.765%.

In retrospective group falling hard and blunt object over body comprises 13, cases i.e. 7.6%. In prospective groups assault by hard and blunt object comprises 5 cases i.e. 6.25%.

Most of the patients in our study mechanism of injury a retrospective analysis of 71 patients of BAT who were admitted in Kempegowda Institute of Medical Sciences hospital (KIMS, Bangalore, India) within a span of 18 months was done [4].

Over a 14-year period 587 children under 13 years of age were admitted with blunt injury to the abdomen. Twenty-nine (4.9 per cent) of these were found to have bowel rupture. 59 per cent had a concomitant injury which resulted in two deaths (from head injury) [5].

A total of 926 patients were treated for blunt trauma by the Pietermaritzburg metropolitan services in South Africa during the period September 2006 - September 2007 were included for review. The mechanisms of injury were motor vehicle accident (MVA) (27), pedestrian vehicle accident (PVA) (21), assault (5), fall from a height (3), bicycle accident (6), quad bike accident (1) and tractor-related accident (2) [6&7].

Estimates indicate that by 2020, injuries from traffic collisions will be the third most common cause of disability worldwide and the second most common cause in the developing world.

**Conclusion**

Incidence of blunt abdominal trauma can be reduced by Improving the social morale of people especially the younger generation by providing Good education, Preventing Alcohol

Abuse, Proper law enforcement and some form of penalty regarding proper vehicle driving. 35 pateints out of 250 patients i.e. 14% of patients with BAT came to hospital with feature of shock was considered as B.P. below 90mm of Hg. The BAT were accidental in nature comprising 154 cases i.e. 61.6%. Second common injury are fall from height comprises 45 cases i.e. 18%.

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