



International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2019; 3(3): 190-193
Received: 04-05-2019
Accepted: 06-06-2019

Dr. Sumit Shukla
Prof. Department of General
Surgery, MGM Medical College &
M.Y. Hospital, Indore,
Madhya Pradesh, India

Dr. Shahrukh Memon
Resident of Surgery, Department
of General Surgery, MGM Medical
College & M.Y. Hospital, Indore,
Madhya Pradesh, India

Study on management of blunt trauma abdomen with special reference to clinical and radiological factors affecting decision making in emergency

Dr. Sumit Shukla and Dr. Shahrukh Memon

DOI: <https://doi.org/10.33545/surgery.2019.v3.i3d.167>

Abstract

Background: All Blunt Trauma Abdomen with special reference to Clinical and Radiological factors affecting decision making in Emergency of above 14 yr age group by blunt trauma admitted in routine & emergency hours in General Surgery in MGM Medical College & M.Y. Hospital, Indore.

Result: In this study maximum no. of patients were in age group between 26 to 50 (56), followed by 12 to 25 (37) & in 51 to 75 (07), there were 84 males & 16 females in our study. In our study maximum Mode of Trauma were in RTA (73), Assault (16), others (04), fall from Height (03) & Falling blunt object over body (02). Maximum Extra Abdominal Solid Organ Injury were seen in No External Injury (54), followed by facial injury, chest and facial injury, head injury i.e. (02). Maximum Complications were seen in Wound infection (05), Septicemia (03), Bed Sore (03), ARF (03). Management of Blunt Trauma Abdomen highest cases were seen in Liver (57), Spleen (44), Kidney (16) & Pancreases (09).

Conclusion: In Blunt Trauma Abdomen injury there was maximum incidence of liver injury (57), followed by spleen injury (47), followed by renal injury (16) and followed by pancreatic injury cases (09) involved in BAT Blunt Trauma Abdomen organ injury grading & management according to AAST guideline (based on CT finding). In our study we tried to develop the management protocol for patients with clinical examination and findings.

Keywords: Blunt trauma abdomen, clinical, radiological & emergency

Introduction

Blunt abdominal trauma is quite common since previous time and increasing day by day in emergency clinics. Many of time this injury is life threatening and require urgent treatment.

Blunt abdominal trauma can result in laceration of solid organ usually causing bleeding which in its most severe form manifest as hemorrhagic shock or as visceral perforation of GI tract. Abdominal compartment syndrome is now recognized as a frequent confounder of surgical critical care following blunt abdomen trauma^[1].

Trauma is defined as damage to the body caused by an exchange with environmental energy that is beyond the body's resilience Abdomen is a commonly injured body region in blunt trauma abdomen and frequently requires the care of surgeon for definitive management. The vital nature of the organ contained within the abdomen makes evaluation and management a priority. The predominant source of morbidity are bleeding and visceral perforation with associated sepsis^[2].

In the setting of blunt trauma, solid organs often sustain contusion and laceration, causing bleeding that may require surgical management. Furthermore, blunt forces can cause rupture of hollow viscera due to rapid compression of a segment of intestine containing fluid and air. 1 Of all patient in 2016 NTBD sustained mortality rate of 12.87% was present. Approx 7 patients out of 20 patients in week in M.Y. Hospital, Indore are reported as blunt trauma abdomen and its number is increasing every year^[3].

Motor vehicle collisions are a common source of blunt trauma abdomen. Seat belt reduces the chances of head injury and chest injury but posts a threat to abdominal organs like pancreas and intestines. Paediatric age group is vulnerable to abdominal injury by seat belts. Other causes include sports which affects kidneys and spleen, fall (from height or on blunt objects like bicycle handles), assault (blow or kick to abdomen)^[4].

The most common solid organ to be injured in abdominal trauma is Spleen and liver, however injuries to pancreas, bowel and mesentery, urinary bladder and kidneys are less common but

Correspondence
Dr. Sumit Shukla
Prof. Department of General
Surgery, MGM Medical College &
M.Y. Hospital, Indore,
Madhya Pradesh, India

Results

Table 1: Age & Gender Distribution

S. No.	Age Distribution	No.
1	12 to 25	37
2	26 to 50	56
3	51 to 75	7
	Gender Distribution	No.
1	Female	16
2	Male	84

In this study maximum no. of patients were in age group between 26 to 50 (56), followed by 12 to 25 (37) & in 51 to 75 (07), there were 84 males & 16 females in our study.

Table 2: Mode of Trauma

S. No.	Mode of trauma	No.
1	Accidental fall	2
2	Assault	16
3	Fall from height	3
4	Falling blunt object over body	2
5	RTA	73
6	Others	4

In our study maximum Mode of Trauma were in RTA (73), Assault (16), others (04), fall from Height (03) & Falling blunt object over body (02).

Table 3: Extra abdominal solid organ injury

S. No.	Extra abdominal solid organ injury	No.
1	facial injury	2
2	# L3 vertebrae and lower extremity #	1
3	10*0.5cms bruise in infraumbilical region	1
4	1cm *1cm lacerated wound in lower lip	1
5	3cm sutured wound over right parietal scalp	1
6	abrasion wound of size 3*2 cms in left chin	1
7	chest and pelvic injury	1
8	chest injury and Facial Injury	2
9	extremity injury	1
10	head injury	2
11	head injury with facial injury	1
12	hollow viscus organ injury	1
13	lower extremity injury	1
14	No external injury	54

Maximum Extra Abdominal Solid Organ Injury were seen in No External Injury (54), followed by facial injury, chest and facial injury, head injury i.e. (02).

Table 4: Complications

S. No.	Complications	No.
1	Shock	1
2	Acute renal failure	1
3	ARF	3
4	Bed Sore	3
5	Burst Abdomen	1
6	None	81
7	Respiratory distress	1
8	Septicemia	3
9	Septicemia and shock	1
10	Wound infection	5

Maximum Complications were seen in Wound infection (05), Septicemia (03), Bed Sore (03), ARF (03).

Table 5: Management of Blunt Trauma Abdomen According American Association for the Surgery of Trauma (AAST grading)

Abdominal Solid Organ Injury	No. of Cases	Management		Outcome	
		conservative	operative	Improved	Not Improved
Liver	57	46	11	52	05
Spleen	44	27	17	39	05
Pancreases	09	07	03	08	01
Kidney	16	07	09	07	09

Management of Blunt Trauma Abdomen highest cases were seen in Liver (57), Spleen (44), Kidney (16) & Pancreases (09).

Discussion

Blunt trauma related Enteric Hollow visceral injury, by Jones *et al.* conducted for a period of 5 years took 2,045 patients in account, 70% patients were male, median age was 28 years, most common mechanism of injury was Road traffic accidents and total of 13% patients required Laparotomy [5].

Blunt injury abdomen attending the tertiary hospital also demonstrated that males were the most commonly affected (75%), most common age group was 21-30 years. the most common organ affected was the spleen.

Injury due to blunt trauma abdomen suggested that there should be a high index of suspicion for hollow viscus injury and management of patient changes on the basis of time of presentation, degree of contamination, associated injuries and general condition of patient. Study reported that the most common hollow viscus organ involved is Ileum 40%, followed by Colon 25%, Jejunum 20%, Duodenum 10% and Rectum 5% [6].

Trauma is the second largest cause of disease accounting for 16% of global burden. This study took 71 patients in account and a retrospective analysis of management of patient was done. Most of the age group was 21-30 years and Male: Female 3.7:1 Motor vehicle accident was the most common cause of trauma. Most common extra abdominal injury was rib fracture. Spleen (53%) was the most common organ involved in trauma. Clinical evaluation alone is inadequate as patients usually have altered mental status, initial assessment with eFAST and abdominal CT are very beneficial to detect abdominal injury [7].

Study on abdominal trauma: patterns of injury, clinical presentation, organ involvement by Abdominal trauma is more common in age group of 21-40 years, male predominance (7.3:1), most common cause remains RTA (48%), clinical features mostly are abdominal pain (98%), tachycardia (80%) and abdominal distension (50%), most common organ injured is liver (32%), spleen(30%) and small bowel (24.32%).

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 [8].

Conclusion

In Blunt Trauma Abdomen injury there was maximum incidence of liver injury (57), followed by spleen injury (47), followed by renal injury (16) and followed by pancreatic injury cases (09) involved in BAT

Blunt Trauma Abdomen organ injury grading & management

according to AAST guideline (based on CT finding). In our study we tried to develop the management protocol for patients with clinical examination and findings.

References

1. Ameh EA, Nmadu PT. Gastrointestinal injuries from blunt abdominal trauma in children. 2004; 81(4):194-7.
2. Sule AZ, Kidmas AT, Awani K, Uba F, Misauno M. Gastrointestinal perforation following blunt abdominal trauma. 2007; 84(9):429-33.
3. Brown RA, Bass DH, Rode H, Millar AJ, Cywes S. Gastrointestinal tract perforation in children due to blunt abdominal trauma. 1992; 79(6):522-4.
4. TM Joseph. Blunt Injury of the Abdomen, 2015.
5. Jones EL, Stovall RT, Jones TS, Bensard DD, Burlew CC, Johnson JL *et al.* Intra-abdominal injury following blunt trauma becomes clinically apparent within 9 hours. 2014; 76(4):1020-3.
6. Arikanoğlu Z, Turkoglu A, Taskesen F, Ulger BV, Uslukaya O, Basol O, Aldemir. Factors affecting morbidity and mortality in hollow visceral injuries following blunt abdominal trauma. 14; 165(1):23-6.
7. Howes N, Walker T, Allorto NL, Oosthuizen GV, Clarke DL. Laparotomy for blunt abdominal trauma in a civilian trauma service. 2012; 29;50(2):30
8. Mehta N, Babu S, Venugopal K. An experience with blunt abdominal trauma: evaluation, management and outcome. 2014; 18; 4(2):599. doi: 10.4081/cp.2014.599. e Collection 2014.