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Research Article

**TO SEE THE PATTERN OF INTERNAL ORGAN INJURIES  
ASSOCIATED TO ABDOMINAL TRAUMA****Dr. Rizwanullah Junaid Bhanbhro<sup>1\*</sup>, Dr. Shahida Khatoon<sup>2</sup>, Dr. Shahnawaz Abro<sup>2</sup>**<sup>1</sup>MBBS, MS (Assistant Professor), General Surgery department of ISRA University Hospital,  
Hyderabad<sup>2</sup> MBBS, FCPS (Assistant Professor), General Surgery Department of LUMHS<sup>2</sup>MBBS, MS (Assistant Professor), General Surgery Department of LUMHS**Abstract:****OBJECTIVE:** To evaluate the frequency of intra-abdominal injuries associated to abdominal trauma.**MATERIAL AND METHODS:** This cross sectional study was conducted at general surgery departments of Isra University Hospital and LUH Hyderabad with the duration of one year from 2014 to 2015. All the patients with abdominal trauma (blunt trauma and penetrating trauma) were incorporated in the study. All cases less than 12 years of age and having brain injuries and unconscious patients were excluded from the study. Details of history, clinical examination, ultrasound abdomen and all required laboratory investigations were carried out. All the causes of abdominal trauma were noted. Frequency of all intra-abdominal injuries including spleen, kidneys, liver, and pancreas, stomach, ureters, small intestine, and urinary bladder were noted. All the findings according to study objective were noted in the Performa.**RESULTS:** Total 60 cases were selected, male gender was found commonest 86.6%, while female were only 13.4%. 23-33 years age group was found commonest 25.0%. Majority of the cases 66.66% had blunt trauma, while 33.34% of the cases had penetrating trauma. Clinically mostly patients were found with abdominal pain and vomiting, 92.30% and 55.20% respectively. Liver was the commonest intra-abdominal injury in both blunt and penetrating trauma, 37.5% and 20.0% respectively.**Conclusion:** We concluded that intra-abdominal injuries are significantly more prevalent in Blunt abdominal trauma as compare to penetrating trauma. Liver and spleen were commonest intra-abdominal organ injuries.**Key words:** Abdominal trauma, intra-abdominal organ injuries**Corresponding author:****Dr. Rizwanullah Junaid Bhanbhro,**

Isra University Hospital, Hyderabad

Cell: 03132851728

Email: dr.sajidarain@gmail.com

QR code



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## INTRODUCTION:

Abdominal trauma is the big general health issue and it is the commonest cause of mortality and the morbidity, in spite of the level of financial development [1]. Trauma is accounted for to be the main reason for death, prolonged hospital stay, and disabilities [2]. Internationally it is found 33% and also remains a stressful reason for unnecessary death. Abdomen is helpless against damage since there is negligible protection of bones for internal organs. In creating nations including Tanzania, trauma is common and abdominal trauma specifically is expanding at a quick rate because of increment in urbanization, mechanization, civil violence, wars and criminal performance [3]. The etiological range and trauma mechanism have been noted for in literature different from place to place of world due to varieties in communication, violence and crime [4]. Trauma of the abdomen is usually categorized as moreover blunt or penetrating [1]. Most essential causes behind the increment of mortality due to blunt trauma of abdomen is moreover interruption in right time diagnostic evaluation or not proper diagnosis.<sup>5</sup> Most basic reasons for blunt trauma of abdomen are RTA, falls and industrial events [5]. In the literature RTA represented 83.6% of blunt trauma of abdomen as well as vehicles 45.5% and bike accident 38.1% [6], and death ratio is greater in cases having blunt trauma as compare to penetrating due to the absence of the complete early diagnosis and appropriate management. It is quietly hard to determine a patient having internal injuries of abdomen light of the fact that examination of the abdomen does not dependably order in cases having internal injuries of abdomen [7]. Incidence of internal injuries of abdomen among patients with trauma of abdomen is around 13% [8]. The spleen was most ordinarily injured due blunt trauma of abdomen happening in above than 50% of patients [9]. On other hand few studies demonstrated that Hepatic injuries were most common associated to blunt trauma of abdomen [10]. However that had not properly clear [11]. This study was carried out to evaluate the frequency of injured intra-abdominal organs associated to abdominal trauma.

## MATERIAL AND METHODS:

Present study was held at general surgery departments of Isra University Hospital and LUH Hyderabad, with the duration of the time from 2014 to 2015. Total 60 patients were selected in the study.

All the cases having abdominal trauma (blunt trauma and penetrating trauma) were selected after taking informed written consent from the patients or their attendant. All the patients under 12 years of the age, having brain injuries and unconscious patients were not included in this series. Detailed medical history, complete clinical examination, ultrasound of abdomen and all required laboratory investigations were carried out. All the causes of trauma of abdomen were noted. Frequency of all internal injuries of abdomen, including injuries of solid organ: (spleen, kidneys, liver, and pancreas), stomach, ureters, small intestine, and urinary bladder were noted. All the findings according to study objective were noted on the Performa. Data was analyzed through SPSS version 16.0.

## RESULTS:

Total 60 cases were selected and out of them male were found in majority 86.6%, while female were only 13.4%. 23-33 years age group was found commonest in 25.0% of the cases, 2<sup>nd</sup> commonest age group was 34-44 years in 20.0% cases, while 12- 22 years, 45-55 years and > 55 years were with percentage of 11.6%, 08.3% and 01.6% respectively. Majority of the cases 66.7%, were from urban areas, while 33.3% of the cases were belongs to rural areas. Road traffic accident was commonest cause of the trauma in 46.6% cases, while 16.6% patients were fall and 3.3% cases were injured by gunshot.

### TABLE: 1

Majority of the cases 66.66% had blunt trauma, while 33.34% of the cases were found with penetrating trauma. **FIG: 1**

Clinically most of the patients were found with abdominal pain and vomiting, 92.30% and 55.20% respectively, results shows in **FIG: 2**

Liver was the commonest intra-abdominal injury in both blunt and penetrating trauma, 37.5% and 20.0% respectively, and spleen was the 2<sup>nd</sup> commonest injury in all the cases as in both groups as 25.0% and 10.0% respectively. While other organ injuries as; Kidney, Gut, Retroperitoneal, and Pancreatic, Diaphragm were noted with the percentage of 5.0%, 5.0%, 2.5%, 5.0%, 5.0% and 10.0% respectively due to blunt trauma, while due to penetrating trauma, kidney, gut, retroperitoneal, pancreatic, diaphragm were injured with prevalence of 5.0%, 5.0%, 5.0% and 10.0%, and gut injuries were not found in patients with penetrating trauma. **TABLE: 3.**

TABLE 1: DEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS n=60

Characteristics	No. of patients	Percentage
<b>Gender</b>		
Male	52	86.6%
Female	08	13.4%
<b>Age groups</b>		
12- 22	07	11.6%
23-33	15	25.0%
34-44	12	20.0%
45-55	05	<b>08.3%</b>
> 55	01	01.6%
<b>Residence</b>		
Rural	20	33.3%
Urban	40	66.7%
<b>Mode of Fracture</b>		
RTA	28	46.6%
Due to Fall	10	16.6%
Gunshot	02	03.3%

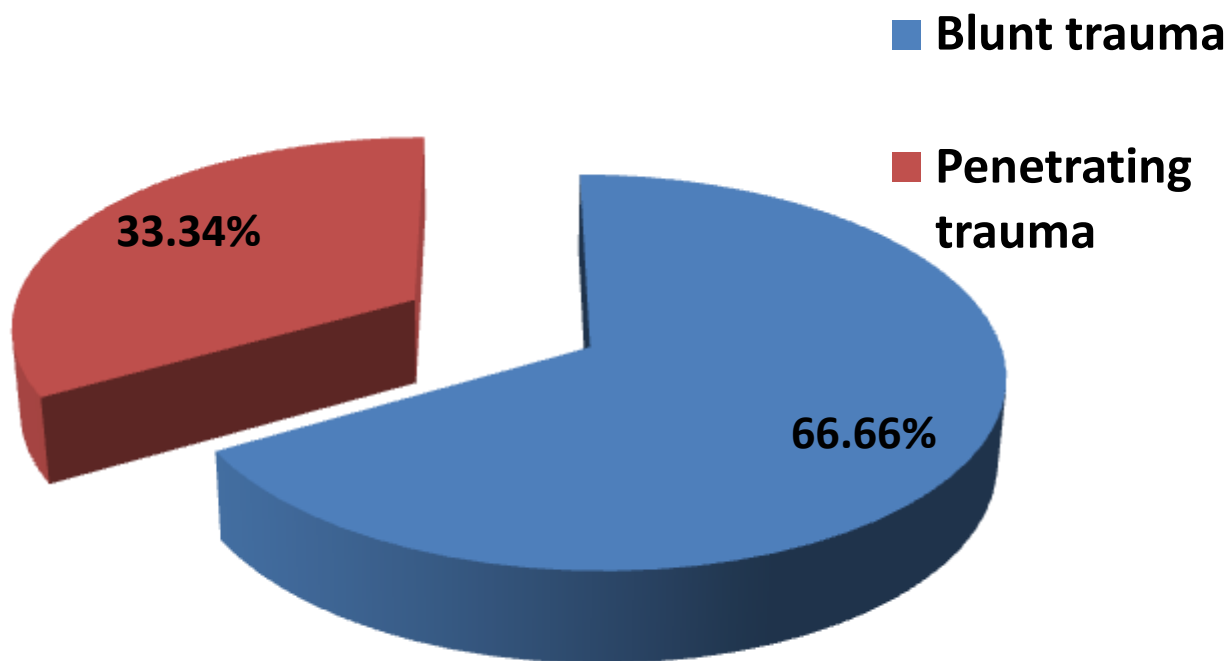


FIG 1: DISTRIBUTION OF TRAUMA OF ABDOMEN N=60

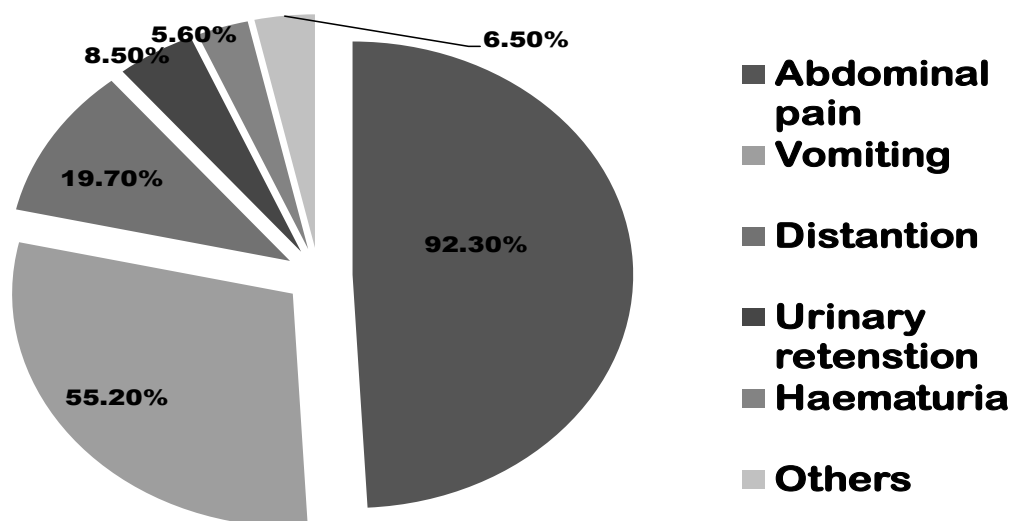


FIG 2: PRESENTATION OF THE CASES n=60

TABLE 2: INTRA ABDOMINAL ORGAN INJURIES N=60

No. of patients	Blunt trauma (n=40)	Penetrating trauma (n=20)	P-value
	No. of pt/(%)	No. of pt/(%)	
Liver	15(37.5%)	04(20.0%)	0.01
Spleen	10(25.0%)	02(10.0%)	
Kidney	02(5.0%)	01(5.0%)	
Gut	02(5.0%)	00	
Retroperitoneal	01(2.5%)	01(5.0%)	
Pancreatic	02(5.0%)	01(5.0%)	
Diaphragm	02(5.0%)	02(10.0%)	
Others	04(10.0%)	02(10.0%)	

**DISCUSSION:**

Abdominal trauma one of the most risk for mortality in our country like as other developing countries [11]. Aziz A et al [12] reported that from total of 50 patients with blunt trauma of abdomen, 82% men and 18% women with ratio of 5.4:1 age group of 13-25 years was the commonest in 15 cases. Similarly in the present study out of 60 cases, male were found commonest 86.6%, while female were only 13.4%. Young males were more involved in this event, as well as 23-33 years age group was found commonest 25.0%, this may due to young male were more

involve in outdoor activities in our country as compare to females, similarly to some studies by Khan S and Alpar [13].

In the present series majority of the cases 66.7%, were urban areas; while 33.3% of the cases were belongs rural areas. RTA was found commonest cause of injury in 46.6% cases, while 16.6% patients were fall and 3.3% cases were injured by gunshot. Similarly Aziz A et al [12], suggested 58% cases were injured due to RTA, 20% cases were fall, 16% cases injure due to violence and 6% cases were injured through industrial accidents.

We found majority of the cases 75%, with blunt trauma, while 25% of the cases were with penetrating trauma. Gad MA et al [14], reported that 69.4% cases had blunt trauma, and 30.6% had penetrating trauma of abdomen.

Aziz A, et al [12], reported that liver injury was most common in 30% cases while spleen injury was in 26% of the cases. Hussain et al.<sup>15</sup> suggested 22.7% liver injuries, and on other hand Hoyt et al [16], showed 25% hepatic injuries. In the present series liver was the commonest intra-abdominal injury in both penetrating and blunt abdominal trauma, 37.5% and 20.0% respectively. Spleen was the 2<sup>nd</sup> commonest injury in all the cases of both groups as; 25.0% and 10.0% respectively, Kidney, Gut, Retroperitoneal, and Pancreatic, Diaphragm and Others, with the percentage of 5.0%, 5.0%, 2.5%, 5.0%, 5.0% and 10.0% respectively. While in the cases with penetrating trauma Kidney, Gut, Retroperitoneal, Pancreatic, Diaphragm and Others, was found with the percentage of 5.0%, 5.0%, 5.0%, 10.0% and 10.0%, while gut injury in the cases with penetrating trauma was not found. Yasmeen et al [17] reported 22% spleen injury due to abdominal trauma. More research should be done on this event, which will be helpful to develop the fast and particular management strategies for these patients.

### CONCLUSION:

We concluded that intra-abdominal injuries are significantly more prevalent in Blunt trauma as compare to penetrating trauma. Liver and spleen were commonest intra-abdominal organ injuries. Fast transport facilities should be planned, and particular well diagnostic criteria should be developed for quick diagnosis and treatment to reduce the morbidity and mortality associated to abdominal trauma.

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