ORIGINAL ARTICLE

Frequency of Different Causes of Blunt Abdominal Trauma

[1]KHALID AZIM,[2] KARIM SHAH FAIZI, [3]TANVEER HAMEED

ABSTRACT

Objective: To determine the frequency of different causes of blunt abdominal trauma.
Study design: Descriptive cases series
Subjects & methodology: The study was conducted at the Department of Surgery, Islam Medical College Teaching Hospital / Islam Central Hospital, Sialkot, from 01/08/2010 to 30/04/2013. A total of 113 patients were included in the study. Patients were examined in respectable and comfortable manner. To exclude bias exclusion criteria was strictly followed.
Results: The age ranged from 15-50 years. Mean age of the patients was 37.1±3.5 years. Out of 113 patients, 102 (90.3%) were male and 11 patients (9.7%) were female. Most common cause of blunt abdominal trauma was road traffic accident in 49 patients (43.4%) followed by assault in 38 patients (33.6%), fall from height in 18 patients (15.9%) and industrial accident in 8 patients (7.1%)
Conclusion: Abdominal injuries are a predominantly male disease with the majority in the third decade of life. Most common causes of blunt trauma was road traffic accident followed by fall from height, assault and industrial accident.
Keywords: Blunt abdominal trauma, Pattern, Laparotomy

INTRODUCTION

General body traumas are being increasingly encountered as a health problem due to the facts that transportation is being wide-spreadly used and that population is growing at a rapid pace. General body traumas cover a wide spectrum ranging from a mild bruise to severe injuries of several organs and systems[1]. Blunt abdominal trauma (BAT) is a leading cause of morbidity and mortality[2]. In a world that increasingly relies on mechanized transportation, adults and children face an increased risk of blunt trauma that can lead to intra-abdominal injuries. Blunt abdominal trauma (BAT) is one of the leading causes of morbidity and mortality among trauma victims[3]. The rapid increase in number of motor vehicles and its aftermath has caused rapid increase in number of victims to blunt abdominal trauma. Motor vehicle accidents account for 75 to 80% of blunt abdominal trauma. Blunt injury of abdomen is also a result of fall from height, assault with blunt objects, industrial mishaps, sport injuries, bomb blast and fall from riding bicycle[4].

Males are the bread earners of most households, and are probably more involved in activities that predispose them to injury. Males were five times more commonly affected than females. The common pattern of abdominal injury was blunt abdominal injury (85.7%) with prevalence of 14.23%[5]. Patients in unstable clinica conditions wit blunt abdominal trauma require rapid evaluation of the abdominal organ injury to assess the need for laparotomy[6].

Causes of injury included road-traffic accidents, falls, assaults and accidents. Presenting symptoms invariably included abdominal pain, but also nausea, vomiting and anorexia[7].

Patients with blunt abdominal trauma are initially imaged with ultrasound (US) for the evaluation of free abdominal fluid. However, lacerations of solid organs can be overlooked. Although computed tomography (CT) is the gold standard technique for abdominal trauma imaging, overutilization, ionizing radiation, need to transport the patient and potential artifacts are well known disadvantages[8].

MATERIAL AND METHODS

The study was conducted at the Department of Surgery, Islam Medical College/DHQ Teaching Hospital, Sialkot, from 01/08/2010 to 30/04/2013. Patients of both gender and age between 15-50 years, patients with blunt abdominal trauma having any clinical suspicion of intra-abdominal injury with sign and symptoms like haematuria and decreasing hemoglobin level, abdominal pain, rigidity and bruising of the external abdomen were included in this study. Patients having chronic illness like diabetes, jaundice, IHD disease, and chronic obstructive pulmonary disease, patients with BAT having associated injuries to head and neck, chest and limbs were excluded from study. Calculated sample size is 113 patients, taking confidence level 95% and blunt abdominal trauma 25%[9], with 8% margin of error. Investigations including complete blood picture,

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[1+3]*Assistant Prof. Department of Surgery, Islam Medical College, Sialkot*
[2]*Assistant Prof, Department of Surgery, Sahiwal Medical College/ DHQ Teaching Hospital, Sahiwal*
Correspondence to Dr. Khalid Azim Assistant Professor

urine detail report, serum electrolytes, serum urea, serum creatinine, blood sugar, HBsAg, anti-HCV, X-ray chest and abdomen and ultrasonography were performed. The study variables were age, gender, causes of blunt abdominal trauma (road traffic accident, fall from height, assault and industrial accident).

RESULTS

The age ranged from 15-50 years. Mean age of the patients was 37.1±3.5 years. Out of 113 patients, 102 (90.3%) were male and 11 pts (9.7%) were female. Most common cause of blunt abdominal trauma was road traffic accident in 49 pts (43.4%) followed by assault in 38 pts (33.6%), fall from height in 18 patients (15.9%) and industrial accident in 8 patients (7.1%).

Table-1: Distribution of patients by age

Age	=n	%age
< 20	18	15.9
20-30	39	34.5
31-40	45	39.8
41-50	11	09.7
Mean±SD	37.1±3.5	

Table 2: Distribution of patients by gender

Gender	=n	%age
Male	102	90.3
Female	11	09.7

Table-3: Cause of blunt abdominal trauma

Cause	=n	%age
Road traffic accident	49	43.4
Assault	38	33.6
Fall from height	18	15.9
Industrial accident	08	07.1

DISCUSSION

Blunt abdominal trauma is a major cause of morbidity and mortality rate among all age groups. Identification of serious intra-abdominal pathology is often complicated. Many injuries may not reveal during the preliminary evaluation and treatment period. In current study, 113 patients were studied. In this study, the mean age was 37.1±3.5 years. In a study carried out by Jehangir et al in their study demonstrated mean age of the patients as 34.2 years[10].

In our study, male patients were 58.9% while Jehangir et al[10] reported 90.3% male patients, similarly Siddique et al[11] reported 94% male patients. All over the world road traffic accidents have emerged as the main reason of BAT in civilian population. Out of the 113 patients included in presents study, 43.4% faced road traffic accidents, 15.9% had fall from height, 33.6% were injured by assaults and fights and 7.1% had BAT in Industrial accident. Latif et al also reported major cause road traffic accidents in 62.86%, fall from height in 20%, assault in 11.43% and other causes in 5.7% of patients as the mechanism of blunt trauma abdomen[12]. In another study conducted by Shiryazdi et al[13] reported 83.3% of BAT due to road traffic accidents and another 13.13% due to falls and fights in their study.

CONCLUSION

Abdominal injuries are a predominantly male disease with the majority in the third decade of life. Most common causes of blunt abdominal trauma was road traffic accident followed by fall from height, assault and industrial accident.

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