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To study modalities for evaluating the abdomen after blunt abdominal trauma

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Abstract

Method: The present study includes 250 cases of blunt abdominal trauma admitted to Index Medical College Hospital & Research Centre, 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.

Result: Table shows over-all mortality 14.6% in the period of study. Out of those patients who were discharged or had improved, 214, i.e. 85.6% of cases were improved. Mortality maximum in patient BAT due to RTA 64.52% and Mortality minimum in patient BAT due to fall from height 20%.

This table shows that maximum patients come after 1 day of injury 83, i.e. 33.2% and the minimum of the patients 32, i.e. 12.8% came to hospital in between 8-16 hrs of injury. This duration of injury had recorded from the OPD slip of the patients or the direct enquiry made from patients.

Conclusion: Mortality can be reduced by Prompt transportation of injured patient to hospital especially by the police. Adequate resuscitation in the casualty room, Adequate supply of blood in blood banks during emergency hours. Supervision by skilled and experienced surgeons especially in mass casualties.

Keywords: Modalities, Abdomen, Blunt & Trauma.

Introduction

Unlike penetrating abdominal trauma, where management is largely determined clinically, the diagnosis of blunt abdominal injury by clinical examination is unreliable, particularly in patients with a decreased level of consciousness^[1, 2]. Confirmation of the presence or absence of injury therefore relies largely on the use of diagnostic adjuncts. Late diagnosis and missed injuries are associated with poor outcome. A large prospective observational study of patients with blunt polytrauma but no clinical signs of injury which found radiological evidence of abdominal injury in almost 10% of patients and a recent consensus guideline suggest that the threshold for investigation of blunt abdominal trauma should be low.

Trauma is the leading cause of death in persons under 45 years of age, with 10% of these fatalities attributable to abdominal injury. Indian statistics reveal a disproportionate involvement of younger age groups (15-25 yrs)^[3].

The Indian fatality rates for trauma are 20 times that for developed countries. About 30% of such deaths are thought to be preventable. Swift recognition of injury with prompt and appropriate treatment to reduce morbidity and mortality is the goal of modern trauma care and hence accurate diagnosis is essential^[4].

Material & Method

This study carried out in the Department of Surgery, Index Medical College Hospital & Research Centre, Indore in patients with Blunt abdominal trauma over the period of from September 2018 to August 2019 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 present study includes 250 cases of blunt abdominal trauma admitted to Index Medical College Hospital & Research Centre, 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.

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Results

Table 1: Relative incidence of mot and mortality

MOT	No of Cases	Mortality
RTA	155	10
Assault	23	07
Fall	40	08
Falling blunt object over body	20	08
Other	12	03
TOTAL	250	36

Table shows over -all mortality 14.6% in the period of study. Out of those patients who were discharged or had improved, 214, i.e. 85.6% of cases were improved. Mortality maximum in patient BAT due to RTA 64.52% and Mortality minimum in patient BAT due to fall from height 20%.

Table 2: Relative incidence of mot and time lag

MOT	TIME LAG				
	0-4hr	4-8hr	8-16hr	16-24hr	>1day
RTA	20	25	21	41	46
Assault	4	3	3	5	6
Fall	5	2	5	14	16
Falling Blunt Object Over Body	2	3	5	5	8
Other	2	2	2	2	7
Total	33	35	32	67	83

This table shows that maximum patients come after 1 day of injury 83, i.e. 33.2 % and the minimum of the patients 32, i.e. 12.8% came to hospital in between 8-16 hrs of injury. This duration of injury had recorded from the OPD slip of the patients or the direct enquiry made from patients.

Discussion

Most of the patients in our study were an M: F ratio of 3.7:1. 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 [5].

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) [6].

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 there were 17 females in this group [7].

According to national and international data, blunt abdominal trauma is more common in men. The male-to-female ratio is 60:40 [8].

Used to evaluate intra thoracic and abdomen after blunt trauma, especially to detect peritoneal penetration, injuries to liver, spleen and diaphragm. Role of diagnosing hollow viscous injury is limited.

Potential complications are – hypercarbia, tension pneumothorax and air embolus. It should not be performed in haemodynamically unstable patients.

Angiography is used to evaluate renal artery thrombosis and to manage pelvic hemorrhage in patients with pelvic fractures and bleeding from minor hepatic and splenic injuries [9].

One hundred eleven consecutive patients with small bowel perforations caused by blunt abdominal trauma. Only 40% of the

computed tomographic scans were diagnostic for bowel perforations: 50% of them showed suggestive signs, and 10% were considered as negative. Persistence of abdominal signs indicated peritoneal lavage. By using diagnostic peritoneal lavage all patients with intraperitoneal bowel perforation were diagnosed accurately before operation [10].

Case of a hemodynamically unstable polytrauma patient who underwent massive volume resuscitation prior to transfer from a community hospital to a trauma center. On FAST examination was positive for free intraperitoneal fluid, but no hemoperitoneum or significant intra-abdominal injuries were found during laparotomy. postulated that transudative intraperitoneal fluid secondary to massive volume resuscitation resulted in a positive FAST examination [11].

Conclusion

Mortality can be reduced by Prompt transportation of injured patient to hospital especially by the police. Adequate resuscitation in the casualty room, Adequate supply of blood in blood banks during emergency hours. Supervision by skilled and experienced surgeons especially in mass casualties.

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