

Evaluation of the Viscus injury in Abdominal Trauma

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Abstract

Background: The diagnosis of hollow viscus injury with advanced diagnostic tools and management of trauma by conservative and surgically by laparotomy and correction of anatomy. Hence such injuries are frequently overlooked leading to increased morbidity and mortality. Thus, this study is intended to throw light upon the prompt diagnosis and management of hollow viscus injuries in trauma. Hence the aim of the present research was to study the diagnosis and management of hollow viscus injuries. **Subjects and Methods:** A total of 100 cases were included in the study. All the patients were above the age of 11 years and maximum age of 80 years. Most of the patients included were male with ration of 4:1. After recording of history clinical examination followed by radiological, serological and operative findings were recorded. Data was analyse to study the male: female ratio, etiologies of viscous injury, investigation done and possible management for the treatment. **Results:** On analysis of the data, most common reason for the abdominal trauma was found to be road traffic accident followed by stab injury. The maximum of the patients belong to the age group of 2 to 30 years. Most common reason for the abdominal trauma was found to be road traffic accident followed by stab injury. **Conclusion:** It is mostly seen in the age group of 21-30 years which form the young and reproductive group. These patients' measures should be taken to prevent these accidents and care of victims at the accident site. Well established trauma care centers should be established at least at every taluk hospital. Measures for early transport of the patients from the accident site to the trauma care centres to be undertaken.

Keywords: Viscus Perforation, Roadside traffic, symptoms, abdominal pain

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Received: 9 January 2020

Revised: 12 February 2020

Accepted: 20 February 2020

Published: 26 May 2020

Introduction

Blunt abdominal trauma results in injury to the bowel and mesenteries in 3–5% of cases. The injuries are polymorphic including hematoma, seromuscular tear, perforation, and ischemia. They preferentially involve the small bowel and may result in bleeding and/or peritonitis. An urgent laparotomy is necessary if there is evidence of active bleeding or peritonitis at the initial examination, but these situations are uncommon. [1,2]

Hollow viscus injuries in Abdominal trauma refers to injuries pertaining to GI tract from cardiac end of oesophagus to anus, gall bladder and biliary tract and lower genito-urinary tract. In 1990, approximately 5 million people died worldwide as a result of injury. The risk of death from injury varied strongly by religion, age, and sex. Approximately 2 male deaths due to violence were reported for every female death. Injuries accounted for approximately 12.5% of all male deaths, compared with 7.4% of female deaths. [3,4]

The diagnosis of hollow viscus injury with advanced diagnostic tools and management of trauma by conservative and surgically by laparotomy and correction of anatomy. Hence such injuries are frequently overlooked leading to increased morbidity and mortality. [5] Thus, this study is intended to throw light upon the prompt diagnosis and management of hollow viscus injuries in trauma. Hence the aim of the present research was to study the diagnosis and management of hollow viscus injuries.

Subjects and Methods

The present research was conducted on the patient admitted in the surgical department of the medical college for the period of three years. The patients with the gastrointestinal perforation and along with history of stab injuries, mechanical crush injuries were included in the study. A total of 100 cases were included in the study. All the patients were above the age of 11 years and maximum age of 80 years. Most of the patient

included were male with ration of 4:1.

The ethical clearance certificate was obtained from the college ethical committee. Most of the patients admitted in the hospital were from rural area. Patients with age less than age of 11 years, presence of genitourinary, biliary and pancreatic injury and the person with injuries caused by blast injuries were excluded from the study.

Data collection was done through history collection. After recording of history clinical examination followed by radiological, serological and operative findings were recorded. Data was analyse to study the male: female ratio, etiologies of viscus injury, investigation done and possible management for the treatment. All 51 bowel perforations were treated with 2 layered closures, with only 3 patients requiring resection and anastomosis. Omental and mesenteric injuries were treated by simple suturing and ligating the bleeding points A total of nine patients died in the present study.

Results

The age range of the included patients was from 11 years to 80 years. The maximum of the patients belong to the age group of 2 to 30 years that was followed by 11 – 20 years. Out of the total 100 patients majority of them were males that account for 84% as compared to 16% of females [Table 1].

On analysis of the data, most common reason for the abdominal trauma was found to be road traffic accident followed by stab injury. Maximum of 64 cases were recorded with etiology of road traffic accident followed by 30 cases of stab injury. [Table 2] On analysis of the symptoms present: abdominal pain, distention, hematuria, pallor, vomiting and absent bowel sound were found in the patients. Abdominal pain was the most common symptom present found in all the cases, followed by presence abdominal distension in 54 cases and followed by vomiting found in 44 cases. [Table 3]

Table 1: Different age groups included in the study

Age groups	No. of patients
11 – 20	28
21 – 30	32
31 – 40	24
41 – 50	12
51 – 60	2
61 – 70	1
71 - 80	1

Table 2: Mode of injury of abdominal trauma

Causative agent	No. of cases
Road traffic accident	64
Stab injury	30
Fall from height	4
Bull gore	1
Crush injury	1

Table 3: Sign and symptoms present in abdominal injury

Sign and symptoms	100
Abdominal pain	44
Vomiting	54
Abdominal distension	12
Hematuria	52
Rigidity	42
Pallor	30
Free fluid	80

Discussion

Hollow viscus injuries (HVIs) are uncommon and found in 1% of all blunt abdominal trauma patients. Due to their rarity, experience with this injury is limited and no strong consensus exists in the literature regarding diagnosis and management of bowel injuries.^[6,7] In penetrating trauma, early abdominal exploration is mandatory in 80% of cases and HVI diagnosis is prompt and easy. In blunt trauma, the non-operative management of solid organ injury has clearly increased the risk of delayed diagnosis and treatment of bowel lesions.^[8,9]

In the present study majority of patients belonged to 21-30 years of age group, followed by 11-20 years age group. In Franklin et al,^[5] study the majority of patients belonged to 21-30 years age group. Therefore it can be concluded that the young and the productive age group people are the usual victims of abdominal trauma. road traffic accidents are the first common mode of injury. This is due to the rapid development in technology, in all fields including automobile industry where the first priority has been given to speed rather than safety.

Conclusion

It is mostly seen in the age group of 21-30 years which form the young and reproductive group. These patients measures should be taken to prevent these accidents and care of victims at the accident site. Well established trauma care centres should be established at least at every taluka hospital. Measures for early

transport of the patients from the accident site to the trauma care centres to be undertaken.

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How to cite this article: Santoki NR, Sangole P, Rao G. Evaluation of the Viscus injury in Abdominal Trauma. *Acad. J Surg.* 2020;3(1):56-58.

DOI: dx.doi.org/10.47008/ajs/2020.3.1.12

Source of Support: Nil, **Conflict of Interest:** None declared.