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Original Article

Blunt injuries to the abdomen in Makurdi, Benue State: Nigeria

T. Yawe King David , F. Onoja and P Inunduh

University Of Maiduguri Teaching Hospital Maiduguri Borno State
Request for reprints to Dr King-David Terna Yawe Department of Surgery UMTH PMB 1414 Maiduguri Borno State.

Abstract

This paper reviews 95 patients treated for blunt injuries to the abdomen at the Federal Medical Centre, Makurdi between January, 1998 to December, 2002 were studied. The over all peak age at risk was 21 – 30 years. Road Traffic Accident (RTA) accounted for 67% of cases. The commonest vehicle of injury was the local taxi system 'GOING' (ACHABA, OKADA) motorcycle. All patients had exploratory laparotomy. Splenic rupture was the commonest intra abdominal injury and was managed by splenectomy in all cases. Delay in presentation and slow reaction time were observed. These worsened the haemodynamic instability and further accounted for the high mortality rate of 26.6%.

Key words: Blunt injuries, Road traffic accidents

Introduction

Injury to the abdomen is a common occurrence in everyday practice world wide in both military and civilian practice[1,7,.8,9.]The morbidity and mortality from these injuries remains high especially when there is delay in diagnosis or treatment. Delayed diagnosis or missed diagnosis is commoner in the blunt injury group compared with the penetrating injury group which are obvious and the response is prompt. In developed countries, morbidity and mortality rates have been reduced as a result of improved safety standards, advances in diagnostic imaging techniques, patient monitoring devices, prompt intervention often in specialized trauma centers among other factors [2,4,5.]In developed countries, however, the outcome of blunt injuries to the abdomen is still affected by late presentation to the hospital, poor diagnostic facilities, poor resuscitation measures and sometimes late commencement of treatment [17.]The aim of this study was to review the pattern of injuries and their management.

Patients and Methods

A total of 95 cases of blunt injuries to the abdomen injuries were treated at the Federal Medical Centre, Makurdi between January 1998 and December 2002. 81 case records had sufficient data for analysis and form the basis of this study. These were analysed for age, sex, cause of injury, interval between injury and presentation/treatment. Physical signs encountered ,laboratory findings, treatment received and outcome

Results:

The peak age at risk was 21-30 years. The youngest patient was 4 years, the oldest, 60 years. Male:Female ratio was 3:1 All 81 patients had emergency exploratory laparotomy following initial resuscitation. There was haemoperitoneum 77 patients. All injured spleens were removed. One patient with type II liver laceration was managed conservatively, 4 patients had small intestinal perforations with peritonitis had segmental resection and end to end anastomosis with peritoneal lavage. The patient with pancreatic pseudocyst had the cyst drained into the stomach. Other non extra abdominal injuries were treated as relevant **Outcome** The morbidity was surprisingly light. 40 patients were transfused a total of 101 units of whole blood with an average of 2 units per patient. 2 patients with associated multiple fractures had five units of blood each. The average duration of hospitalization was 10 days ranging from 7 – 32 days, the later in a patient with burst abdomen secondary to peritonitis. The rest were minor complications. All

patients with splenectomy were appropriately advised. In two patients aged less that 10 years prophylactic long acting penicillin and anti-malarias were commenced. Follow-up ranged from three months o 3 injury, one had a combined type V liver and splenic injuries. 4 patients had associated compound fractures, while 3 had associated cervical spinal cord injury (C4). The commonest cause of injury 66.6%(54/81) was Road traffic accident (RTA) followed by assault 24.7%(20/81) (Table II). Table III shows the frequency of physical findings. The most frequent findings were abrasions and bruises on the anterior abdominal wall (96%) with signs of peritoneal irritation (abdominal tenderness, guarding and rigidity, rebound tenderness, rectal tenderness) in 90% of cases. Associated significant findings were haemodynamic instability with features of severe haemorrhage. Positive paracentesis abdominis was seen in over 50% of cases. The most frequently injured organ was the spleen 57% (Table IV) Significant extra abdominal injuries involved the ribs in 6 cases and limbs in 5. The time to presentation following injury ranged from 4 hours to 4 days with an average of 20hours to time of commencement of definitive treatment following admission ranged from 45 minutes to 18 hours (average 6 hours.).One patient, was a 60 years old lady who presented with a pseudocyst of the pancreas 30 days after the initial trauma from Road Traffic Accident (RTA).

years The mortality rate of 26% was recorded in 21 cases, mostly in the haemodynamically unstable patients; 10 had type IV (shattered spleen), splenic

TABLE IV: Organ involvement in blunt abdominal injuries**.**

ORGAN	No	(%)
Spleen alone	40	49.3
Liver alone	3	3.7
Liver and Spleen	7	8.6
Small Intestine	9	11.1
Stomach	2	2.5
Pancreas	1	1.2
Mesentery	8	9.9
Multiple organs*	11	13.6
TOTAL	**81**	**100**

*Mulitiple organs +retroperitoneal hemorrhage

Discussion

The incidence of blunt injuries to the abdomen has been rising world-wide because of the increasing frequency of high speed travels and social violence,[8,15,] whereas violent injuries are commoner in some developed countries [8.,] Road Traffic Accident (RTA) is the leading cause in this study. This finding is similar to other reports in Nigeria.[9,10,15,17,22,23.]The peak age at risk in this study is 21 – 30 years followed by teenagers. Our finding in this regard is in consonant with other published reports [7,10,17,18,22.] This may be due to the dynamic lifestyles of these two age groups. There was a male preponderance in our study and this may be related to their exposure to travel hazards in search of a means of livelihood. A similar finding was noted recently by Dogo et al.[18.] In this area with poor transportation system, intra-town shuttle is achieved by the popular **'GOING'** (Achaba-Okada i.e motorcycle). The **GOING** drivers' usually carry between 2-4 additional passengers during their peak hours of business, often cruising at reckless speeds resulting in accidents. The commonest organ injured was the spleen. Splenectomy was performed in all such cases as the injuries were of type III and above, and most of these patients were haemodynamically unstable as noted by others [21,23.]Conservative management of splenic injuries is practiced especially in specialized trauma centers world-wide [4.5.11,14,16.] In our centre and indeed in most developing countries where facilities are in short supply and reaction time is slow, a policy of conservative treatment may increase fatality rate. Another disturbing findings in this study was the delay in presentation and treatment. This averaged 20 hours. The delays accounted for the high frequency of features of severe abdominal apoplexy and haemodynamic instability, and ultimately to the high mortalities recorded in this study. We also found that multiple injuries carry increased the mortality[4,20,21.] Many trauma units routine employ newer diagnostic and monitoring aids in patients care. [1,2,5.] In this study, we established diagnosis on the basis of a combination of history, physical examination, a high index of suspicion and paracentesis abdominis as reported by others. [6,15,23.] An interesting finding in our study was injury to the pancreas which is reportedly rare following blunt trauma.[3] The diagnosis was made on basis of presentation, physical findings and ultra sound. The patient was treated and recovered with no incidence..In this study the morbidity and mortality from blunt injuries to the abdomen is high and should be reduced. Several measures are required to achieve these .road users especially. '**GOING** drivers' have to be educated on the hazards of their trade and to ride carefully and reduce "over loading". Improved socio-economic status, better and safer transportation system and qualitative and affordable health facilities, especially in the delivery of emergency medical care.

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Vol 7 No 1-2, 2005: 173 - 175

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