PATTERN OF INJURIES AT THE EMERGENCY UNIT OF A FEDERAL TEACHING HOSPITAL IN NORTH-EAST NIGERIA

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ABSTRACT

Background: Traumatic injuries are on the increase in many of our hospitals with varying aetiology, severity and mode of presentation. This study therefore, aimed to appraise the various types of injuries seen and attended to at the emergency unit of the study centre**.**

Method This is a prospective cross-sectional study carried out over a 7-month period (September 2014-March 2015), on patients that presented to the emergency unit. Relevant investigations were carried out and these were tailored according to the patient's pathology. Surgical intervention was required in some patients as part of the resuscitation protocol while others were managed non-operatively. Patients were thereafter referred to and admitted under various sub-specialties for expert care. Data analysis was done using Epi info 3.5.1

Result: There were a total of 86 patients out of which 29 patients declined orthodox treatment. The remaining 57 patients comprised 31 (54.4%) males and 26 (45.6%) females (M:F =1.2 :1). Their age ranged between 8 to 60 years. Regarding the aetiology, gunshots were the most predominant cause of injuries (23, 40.4%) followed by knives (20, 35.1%). The abdomen was far more injured than any other parts of the body followed by the extremities both as isolated and combined injuries

Conclusion: Concerted efforts are required to curb the rising incidence of traumatic injuries. This will entail dedicated efforts from the community and the Government through her various public enlightening agencies.

Keywords: Trauma, Aetiology, Management.

Introduction

Traumatic injuries are a disease burden that is on the increase globally [1]. The occurrence and aetiology of injuries vary from one location to the other. The severity of such injuries depends on factors such the nature of the cause, region of the body involved, degree of energy transferred and promptness to getting medical aid [2]. The impact of this burden cannot be overemphasized as it is associated with significant morbidity and mortality [3]. In 2010, the accrued death toll of traumatic injuries was estimated to be 5.1 million people per annum in the United States [4]. The eventual outcome of some of these injuries depends largely on the promptness of presentation at the hospital; the nature and extent of such injuries. On this premise, this study was conducted to appraise the different types of injuries seen at the emergency unit of the study centre.

Methods

This is a prospective cross-sectional study carried out over a 7-month period (September 2014- March 2015), in which patients that presented to the emergency unit of the Federal Teaching hospital, Gombe were studied. Patients were admitted and resuscitated. Patients' clinical conditions were optimized by ensuring adequate tissue perfusion deemed satisfactory at an hourly urine output of 0.5ml/kg/hour. Blood samples were taken for relevant investigations. Blood was transfused in haemody namically unstable patients. Generous analgesia as well as broad spectrum antibiotic coverage was given to all patients.

Investigations carried out include plain x-rays, abdominal sonography and cranial computerized tomography scans. These were tailored according to the patient's pathology. Clinical photographs were taken. Patients had various forms of surgical procedures depending on the type of injuries sustained (wound debridement, fractures splinted with cast, chest tubes inserted where indicated, cervical collar applied in suspected cervical injuries, targeted burrhole, thoracotomy laparotomies and wound exploration under general anaesthesia). Patients were thereafter admitted for expert care under respective sub-specialties. Data was analysed using Epi info (version 3.5.1); quantitative data were presented in frequencies and percentages.

Results

There were a total of 86 patients out of which 57 patients consented to orthodox treatment. Twenty nine patients declined orthodox treatment and signed against medical advice (opted for traditional bone setters) to treat their fractures. The 57 patients that were understudied comprised 31 (54.4%) males and 26 (45.6%) females (M:F =1.2 :1). Their age ranged between 7 to 60 years with the peak age group of 21-30 years. Other demographic information is shown in Table 1. With regards to the injured organ/system, the abdomen was mostly injured (18, 39.2%) followed by the extremities (13, 28.3%) [Table 2].

Gunshots were responsible for the highest proportion (23, 40.4%) of the cause of the injuries followed by knives (20, 35.1%). Forty eight (84.2%) patients presented with haemodynamic stability while nine (15.8%) patients presented in shock and were resuscitated.

Nearly all patients with injuries to the abdomen, perineum and extremities had operative intervention [laparotomy, wound exploration and external fixation respectively] while (3, 20.0%) patients and (2, 40.0%) patients with head and chest injuries respectively had operative procedures [targeted burrhole and thoracotomy respectively] (Figure 1).

Table 1: Demography of patients.

Parameter	Frequency	Percentage
Age group (years)		
< 10	2	3.5
11-20	8	14.0
21-30	23	40.4
31-40	11	19.3
41-50	8	14.0
51-60	4	7.0
>60	1	1.8
Sex		
Male	31	54.4
Female	26	45.6
Occupation		
Students	8	14.0
Artisans	16	28.0
Unemployed	30	52.6
Professionals.	3	5.3

Table 2: Aetiology and Extent of injury

Organ/system	Frequency	Percentage
Cause of injury		
Gunshot	23	40.4
Knives	18	31.6
RTA	9	15.8
Impalement	1	1.8
Shrapnel	4	7.0
Burn	2	3.5
Organ-system involved (isolated)	9	19.6
Head/Neck	2	4.4
Chest	18	39.2
Abdomen	4	8.8
Perineum	13	28.3
Extremities		
Combined Trauma	6	46.2
H/N + Extremities	3	23.1
H/N + abdomen	1	7.7
Abdomen + perineum	3	23.1
Chest and abdomen		

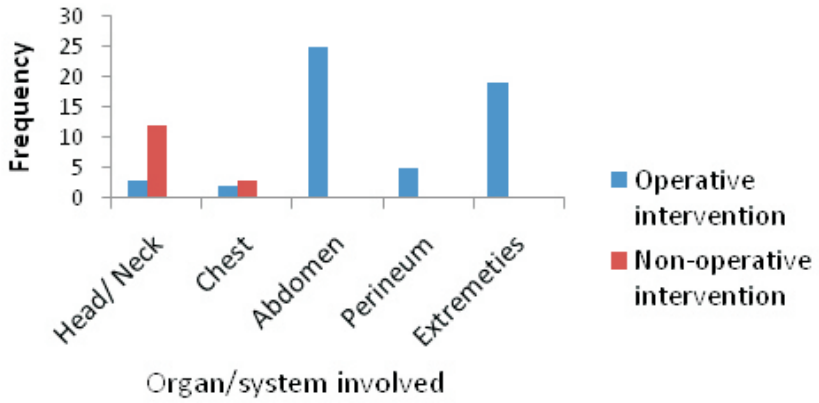
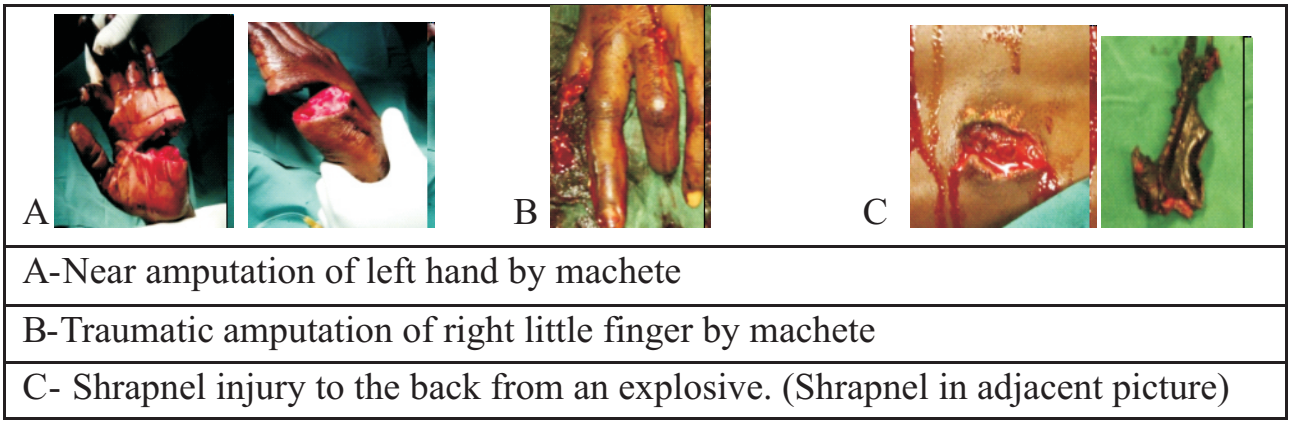


Figure 1: Modalities of management of injuries



A-Near amputation of left hand by machete

B-Traumatic amputation of right little finger by machete

C- Shrapnel injury to the back from an explosive. (Shrapnel in adjacent picture)

Figure 2: showing various forms of injuries

Discussion

The ages of patients seen in this study ranges from 7-60 years. The modal age group involved was 20-30 years. This observation is consistent with reports from other studies [5, 6]. The predominant age group involved (20-30 years) comprises of the economically vibrant individuals. The sustenance of injuries by patients in this age group invariably impacts negatively on the socio-economic activities of the society at large [7]. In this study, males were noted to have sustained more injuries than females and our observation is in agreement with that of other authors [7-9]. This may not be unconnected with economic reasons as males are usually the breadwinners of the family who move from one place to the other in order to earn a living and peradventure; may be victim of circumstance during their search for livelihood. On the other hand, males are usually involved in civil unrest and other social vices than their female counterparts [10].

Gunshot injuries were predominant and responsible for the highest cause of injuries among our patients. These were as a result of attacks unleashed either by insurgents and/or armed robbers and our observation conforms to that of other workers from this environment [11, 12]. Insurgency and ethno-religious violence are perennial problems that have plagued the northern part of the country as against cultism, kidnap attacks, assassinations and armed robbery that are prevalent in the southern part of the country [11-15]. Road traffic injuries also contributed significantly to the number of traumatic injuries encountered in this study. This may be attributed to poor road infrastructure, use of cars that are not road worthy for commercial activities and non-adherence of road users (especially the commercial motorcyclists) to safety guidelines. This observation is not only peculiar to our study as other authors had earlier reported similar findings [16, 17]. Other causes of injuries were stab wounds with knives, arrows, sticks and spear. At times, the sight of some of such injuries will provoke one's thought of asking rhetorically the goal that such an attack was meant to achieve. Other causes of injuries include shrapnels from explosives and impalement injuries in the abdomen.

About 80% of our patients presented with isolated organ/system injury. The abdomen was predominantly involved with injuries to both solid organs and bowel followed by injuries to the extremities (both upper and lower limbs). Patients sustained both open and closed fractures (tibia/fibula, femur, radius and ulnar) from both road traffic accidents and gunshots while a few patients sustained head and thoracic injuries. Multiple injuries were seen in about a quarter of the patients. The pattern of injuries seen (either as isolated or multiple injuries) in our patients was not different from that reported from other climes [11,16, 17,18]. Virtually all the patients that had injuries to the abdomen, extremities and perineum had operative management while about half of the patients with head and thoracic injuries had non-operative management.

Conclusion

Firearms as well as vehicular injuries

constitute a significant proportion of our emergency patients. Curtailing this trend will entail measures directed at mass re-orientation on ethno-religious tolerance through relevant government agencies. Likewise, abiding by road safety guidelines by road users as well as provision of safe roads will reduce significantly, the perennial problems of road traffic accidents on our roads.

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