Epidemiology Of Gunshot Injuries In Abeokuta, Southwest Nigeria

N Aigoro, G Abass

Citation

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Abstract

Background: Civilian gunshot injuries are a common encounter in medical practice in our environment with varied aetiological factors in different geopolitical regions. This report examines the pattern of gunshot injuries in a secondary Health facility over a 24-month period. Patients and Methods: All cases of GSI seen at the Accident and Emergency department of the State Hospital, Abeokuta from January 2010 to December 2011 retrospectively analyzed. Results: There were 46 cases with males constituting 44(95.1%) of cases, whilst female accounted for 2 (4.4%) cases thus giving a M:F ratio of 22:1. GSI commonly occurs in the age group 21 – 40 years (65.1%), whilst the lower limb was the most common anatomic region affected (39.1%). The other body regions affected were upper limb (30.4%), Head & Neck (15.2%), Abdomen (6.5%), Chest (2.2%), Trunk(back) (2.2%). 4.4% of patients had multiple sites of GSI.13(28.3%) cases were recorded in 2010 as against the 33(71.7%) cases seen in 2011- an election year.35(76.1%) patients were treated and eventually discharged, while 5(10.9%) patients were referred to a Neurosurgical service. 5 patients died from their injuries- giving a mortality rate of 10.9%. 1 patient discharged himself against medical advice. Conclusion: GSI is a cause of traumatic death, and enormous morbidity in our environment, striking at the most productive age group of the economy. There is need for a concerted effort to stem the tide.

INTRODUCTION

Gunshot injuries in a civilian environment are now a common phenomenon globally with wide regional variations worldwide and Nigeria in particular.

Gunshot injuries used to be rarely encountered in civilian medical practice before the Nigerian civil war of 1967-1970 with most hospitals recording only few cases in a year.[1] This scenario has since changed, and also the causes/ events leading to the GSI.

Some of the factors adduced for the increase in GSI include increase communal/civil strives, political thuggery fuelling access to sophisticated and locally made firearms, cult rivalry, armed robbery, and police brutality, among others.

State Hospital, Abeokuta, a major referral centre in Ogun Central Senatorial district of Ogun state, is situated in the heart of Abeokuta, the state capital and has a dedicated Trauma department. This study was undertaken to share our experience on the pattern of GSI in our environment, and proffer possible solutions.

PATIENTS AND METHODS

This was a retrospective study of all patients presenting with gunshot injuries from January 2010 to December 2011 at our Accident and Emergency unit.

Patients' case notes were retrieved and parameters extracted including Age, sex, event/cause of gunshot injury, anatomical site(s) involved, and the outcome.

Cases of gunshot injuries that died at scene of incident and taken directly to the morgue were not included.

The data were analyzed using simple statistical methods including frequencies and averages.

RESULTS

Forty-six (46) patients with gunshot injuries were seen in the 24- month period of study. There were 44 males and 2 females, giving a M:F ratio of 22:1.

42 (91.3%) cases were due to armed robbery attack, whilst 4 (8.7%) were due to stray bullet from the police.

The age range was 20days to 60years. The mean age was 25.6years. The peak incidence occurred in the 4 th decade

(Table 1).

The commonest body region involved was the lower limb with 39.1% (n=18), followed by the upper limbs with 30.4% (n=14). The other sites involved were: Head & Neck – 15.2% (n=7); Abdomen – 6.5% (n=3); Chest – 2.2% (n=1); Trunk (back) – 2.2% (n=1). In 4.4% (n=2) of case multiple sites were involved (Table 2).

13 (28.3%) of cases occurred in year 2010, while there were 33 (71.7%) cases in 2011.

35 (76.1%) of the patients survived their injuries and were subsequently discharged, 1 (2.1%) patient discharged himself against medical advice DAMA, whilst 5(10.9%) patients had to be referred to a tertiary hospital for neurosurgical management. 5 (10.9%) patients died of their injuries- four(4) from severe head injury, and one (1) from chest injury.

Figure 1

Table I: Age distribution of GSI

Age Range	Number	%
0-10	2	4.4
11-20	1	2.2
21-30	12	26.0
31-40	18	39.1
41-50	9	19.6
51-60	4	8.7
61-70	-	-
>70	-	-
Total	46	100

Figure 2

Table 2: Anatomical site of involvement in GSI

Anatomical site	Number of injuries	%
Lower limb	18	39.1
Upper limb	14	30.4
Abdomen	3	6.5
Head & Neck	7	15.2
Chest	1	2.2
Back	1	2.2
Multiple injuries	2	4.4
Total	46	100

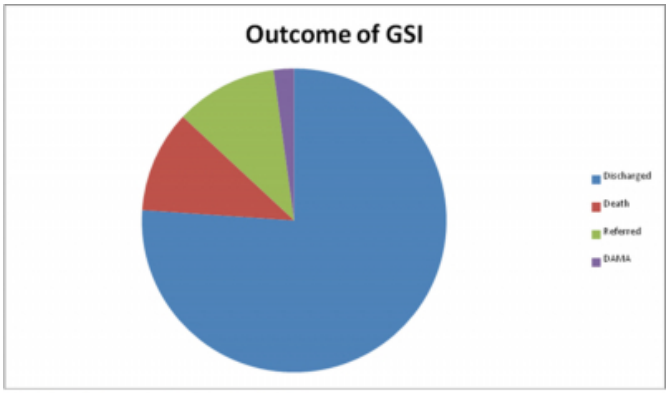
Figure 3

Table 3: Outcome of GSI

	Number	%
Discharged	35	76.1
Death	5	10.9
Referred	5	10.9
DAMA	1	2.1
Total	46	100

Figure 4

Figure 1: Outcome of GSI



*DAMA- Discharge against medical advice

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Figure 5

Table 4: Type of weapon used

Type of bullet	Frequency	Percentages
High velocity	9	19.6
Low velocity	35	76.1
Not indicated	2	4.3
Total	46	100

DISCUSSION

46 patients were admitted for GSI over 24months under review in our centre. This data excluded those seen at other private and public hospitals in and around Abeokuta. Of the 46 patients, 13 (28.3%) patients were seen in year 2010 although there was a general strike between November and December 2010.This has not significantly affected the statistics. However the marked increase in the incidence of GSI (71.7%) seen in 2011 observed in this study can be attributed to “general election effect”. Several studies in the South West and South East in Nigeria agreed with our findings of significant rise in GSI during and after general

elections.[2,3,4,5]

Arms proliferation in pre and post election period contributes significantly to the rise in GSI during this period. Most of these weapons fall into the hands of armed robbers or political thugs turned robbers after they are laid off in the post election period. [5]

The male preponderance (M:F ratio of 22:1) findings in this study agrees with previous studies . [2,3,6,7,8,9,10,11] Globally, men are involved in aggressive activities being the active group.

Armed robbery attacks account for most of the GSI (91%) in keeping with reports from different parts of the country, [11,12, 13, 14]but in contrast with predominance of stray bullet/accidental discharge incidents found in Calabar. [1]

Injury to the lower extremity occurred more frequently than other regions of the body in our study which agrees with findings from kano, calabar, Enugu, and Gombe studies[11,1,5,15], but differs from findings from Lagos and Benin in Nigeria and Durban, South Africa [12,13,16] where abdominal injuries predominated. This implies that GSI in our environment were inflicted to immobilize rather than aiming to kill the victims.

The 10.9% mortality recorded in this study (Table 3) mainly from head and chest injuries is slightly comparable to the findings from Calabar and Kano (8.2%) [1,9] , but higher than findings from Benin (3.9%)[8]. This can be attributed to delayed presentation.

As observed in previous studies,[3,5,11,15] Low velocity bullets were predominantly used in our study (Table 4).

CONCLUSION

This study showed rising tide of GSI in Abeokuta mainly in pre and post-election period. Concerted effort should be geared towards firearms control particularly before, during and after elections. Government should channel effort towards improvement of health facilities, human resources development, and provision of adequate ambulance services to cater for immediate and long term need of victims of GSI.

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Author Information

Nafiu O. Aigoro, FWACS, FICS
Department Of Orthopaedics & Trauma Surgery, State Hospital

Ganiyu O. Abass, MB CH. B, MPH
Accident & Emergency Department, State Hospital