

Research Article

Missile injuries to the external genitalia: a five year experience in Maiduguri, North Eastern Nigeria

Hassan Mohammed Dogo*, Ahmed Gaddams Ibrahim, Yakubu Lawan Gana

Division of Urology, Department of Surgery, University of Maiduguri Teaching Hospital Maiduguri, Borno State Nigeria

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***Correspondence:**

Dr. Hassan Mohammed Dogo,
E-mail: hassdogo@yahoo.com

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ABSTRACT

Background: There is a tremendous increase in violence as a result of the insurgency that is currently afflicting our region. Injuries from Gunshot and improvised explosive devices (IEDs) are quite common and the external genitalia is longer exempted from such injuries.

Methods: The study reviewed all patients with missile injuries to the external genitalia managed in the University of Maiduguri Teaching Hospital (U.M.T.H) between January 2011 and December 2015.

Results: A total of 51 patients had injuries to the external genitalia. Seven were excluded for incomplete data and 44 patients were analyzed. Age ranged from 5-70 years with a mean of 32.75 years and a male to female ratio of 10:1. The peak age group was 30-39 years accounting for 31.82%. The injuries were scrotal 65.91%, and penis 20.45%. Procedures done were wound debridement in all patients, and delayed primary closure in 43.18%. The outcome was satisfactory in terms of cosmesis, erectile and voiding functions.

Conclusions: Genital missile injuries are on the increase with militarization of civilian population. Goals of treatment still remain cosmesis, preservation of erectile and voiding function.

Keywords: Missile injury, External genitalia, Experience, Developing country

INTRODUCTION

External genitalia missile injuries are rare generally because of the anatomic shielding and position of the external genitalia. The global rise in terrorism, associated with easy access to firearms and improvised explosive devices has led to an increase in missile injuries to the external genitalia especially in insurgency areas.^{1,2} Improvised explosive devices (IEDs) planted by the road side, mines, suicide bombers, explosions all commonly occur at ground level with impacts more towards the lower limbs, pelvis and the genitalia. The labia, scrotum, penis and testes are all vulnerable.³ These injuries are rarely life threatening in themselves, however most of these patients are multiply injured. Therefore, more often the injuries to other systems take precedence. The

management of these injuries often present with complex problems to the urologist when the preservation of potency, fertility, normal micturition, and cosmesis are been considered as major treatment goals.⁴⁻⁶ The aim of this study was to highlight present experience in the management of missile injuries to the external genitalia.

METHODS

The study reviewed all patients with missile injuries to the external genitalia managed in the University of Maiduguri Teaching Hospital (U.M.T.H) between January 2011 and December 2015. Permission for the study was granted by the Hospital Ethical and Research Committee. Informed consent was also obtained from all patients. Information extracted from clinical and

laboratory records and data analysed. All patients had resuscitation with intravenous fluids, antibiotics, analgesics and blood where necessary. Investigations done were Full blood count, blood chemistry, Abdomino-Pelvic USS, blood sugar, Chest X-Ray, urine analysis and Electrocardiography. Other investigations were MRI and CT scan where applicable.

RESULTS

A total of 165 patients with missile injuries were managed, out of which 51 patients had injuries to the external genitalia. Seven were excluded for incomplete data and 44 patients were analyzed. Age ranged from 5-70 years with a mean of 32.75 years and a male to female ratio of 10:1. The peak age group was 30-39 years accounting for 14 (31.82%) (Table 1). The injuries were scrotal 29 (65.91%), perineum 20 (45.45%), penis 9 (20.45%), and urethra 6 (13.64%). Other associated injuries were limb fractures in 19 (43.18%), head and neck, and abdominal injuries 4 each (9.09%) while chest, ear and eye 1 each (2.27% each). Pre morbid medical conditions were Hypertension in 6 (13.64%) and diabetes in 3 (6.82%).

Table 1: Age distribution in years.

Age group (in years)	Number	%
<10	2	4.55
10-19	6	13.64
20-29	9	20.46
30-39	14	31.82
40-49	6	13.64
40-59	3	6.82
60-69	3	6.82
70-79	1	2.27
Total	44	100

Procedures done were wound debridement in all patients (100%) (Table 2), associated injuries were co-managed by respective specialists. The outcome was satisfactory in terms of erectile and voiding functions, and cosmesis. Post-operative complications were urethro-cutaneous fistula in 2 of the 6 patients with urethral injury which subsequently closed spontaneously, surgical site infection in 6 (13.64%) patients. There was no mortality.

Table 2: Procedures done.

Procedure	Number
Wound debridement	44
Delayed primary closure	19
Secondary closure	06
Urethroplasty	2
Penile stump meatoplasty	2
Glanuloplasty	1
Orchidectomy	1

DISCUSSION

Missile injuries to the genitalia affect all ages and both sexes with a peak age of 30-39 years and a mean of 32.75. This is comparable to a study in Jos by Ofoha et al whose age range was 1-73 years with a mean age of 30.62 years.⁷ In the current study, the commonest sites injured was the scrotum, perineum, and the penis in that order as opposed to findings by Ghilan et al who reported Penis, scrotum and testes respectively.⁸

Ghilan however, reported associated injuries of which limb fractures was the commonest which is in conformity with the current study. In this series, most injuries were treated by serial debridement and delayed primary closure. Urethral injuries were repaired primarily while two had urethrocutaneous fistula that healed on conservative management. Surgical site infection was 13.64% and orchidectomy rate of 1.25%. These were in complete variance to findings by Gomez et al who had no surgical site infection but had a high orchidectomy of 10.87%.⁹

Both studies had no mortality, with good functional outcome in terms of voiding and erection. The current study recorded high surgical site infection which can be attributed to dirty wounds, delay in presentation, and delay in the hospital due to attention been focused on life threatening injuries in the multiply injured patients. Therefore, there is a strong need for proper pre hospital care where initial wound care and life support can be given as well as a good hospital based multi-disciplinary trauma team management.¹⁰⁻¹²

CONCLUSION

Genital missile injuries are on the increase with militarization of the civilian population, early surgical intervention is important in reducing morbidity. Goals of treatment still remain cosmesis, preservation of erectile and voiding function.

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