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Pattern of presentation and surgical management of penile fractures in a semi-urban African teaching hospital: Case reports and literature review

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Abstract

Introduction: Penile fracture is relatively rare and also under-reported in our environment. There seem to be a gradual change in this pattern however, as we managed six patients over a two-year period.

Objective: To present the peculiarities of penile fracture presentation and surgical management in our semi-urban African setting; while also reviewing the available literature on the subject to possibly validate our practice.

Patients and methods: All patients with penile fracture managed in our university teaching hospital between January 2014 and December 2015 were prospectively studied in order to identify any peculiarities of clinical presentation, surgical reconstruction technique and management outcome.

Results: Six male patients were studied. Their ages ranged from 23 to 41 years (mean 31 years) while interval between penile fracture occurrence and clinical presentation in our emergency unit ranged from 45 min to 30 h (mean about 10 h). The aetiologic mechanism was penile self manipulation (2, 33.2%), masturbation (1, 16.7%), sexual intercourse with the female in the dominant position (1, 16.7%), turning in bed (1, 16.7%) and motorcycle road traffic accident in a man with local aphrodisiac induced penile erection who was rushing home to his female partner (1, 16.7%). The rupture of the tunica albuginea was located on the right side in majority of cases (4, 66.7%) while none of the patients had coexisting urethral injury. All of them had surgical repair between 3 and 9 h of presentation with good cosmetic and functional outcome.

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Conclusion: The trend of penile fracture seems to be changing in our semi-urban African community. Surgical reconstruction results in good outcome.

Introduction

Penile fracture is an acute urologic emergency that may result in significant functional and psychosocial consequences if not properly and timely managed [1]. The fracture, which refers to a traumatic disruption of the tunica albuginea of the corpus cavernosum when the penis is in a fully erect state [2], may be associated with corpus spongiosal and urethral injuries in complex cases [3]. It was first described by Abdulkasem of Cordoba more than a thousand years ago, though the first report in contemporary medical literature was by Malis et al. in 1924 [2,4]. The fracture usually results from blunt penile trauma, and the mechanism may be from aggressive sexual intercourse (commonly with the female partner on top), masturbation, self-penile manipulation or accidental trauma to the erect penis from falls or while turning in bed [2,5,6]. Clinical features include sudden penile pain associated with immediate detumescence, penile deformity (swelling and/or deviation to the contralateral side) and voiding difficulties if there is co-existent urethral involvement. The diagnosis is usually clinical and most authors advocate early surgical repair using absorbable sutures [7].

The condition is relatively uncommon globally. As of the year 2001, only 1331 cases had been reported worldwide [7]; and there are still less than 3500 cases described in world literature till date [3,8]. A recent systematic analysis of all penile fracture publications between 1974 and 2015 however showed that some of the relatively scanty literature on the subject are of low quality in methodology or result presentation [9], thereby further reducing the number of reliable, high-impact articles available on the subject. On the African continent, there is significant paucity of penile fracture research, as it is relatively uncommon and most of the cases that do occur remain underreported probably due to the perceived embarrassment and socio-cultural inhibitions by affected individuals [2,6]. We therefore aim to present the peculiarities of penile fracture presentation and management in a semi-urban African setting such as ours and review the available literature on the subject in order to possibly validate our practice.

Patients and methods

This hospital based study was carried out at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife, Osun state, Nigeria. The hospital serves as a referral center for mainly semi-urban populations spread across six states of southwestern and Northcentral Nigeria. All patients that presented with penile fracture to OAUTHC over a 24-month period (January 2014 to December 2015) were prospectively studied in order to identify any peculiarities of clinical presentation, surgical management and treatment outcome. Ethics approval was obtained from our institution's ethics committee and informed consent was secured from all the patients. A proforma specially designed for the study was used for data collection, while the International Index of Erectile Function (IIEF-15) questionnaire was administered periodically starting 6-weeks after surgical repair during the follow-up evaluation period. All the data from the study was transferred to a computer for analysis using SPSS 21.

Results

Six male patients were studied. Their ages ranged from 23 to 41 years (mean 31 years) while duration between penile fracture occurrence and clinical presentation in our emergency unit ranged from 45 min to 30 h (mean about 10 h) – Table 1. The disruption of the tunica albuginea was located on the right side in majority (4, 66.7%) of cases while there was no patient with bilateral involvement. The size of the rent ranged between 0.5 and 2.0 cm and was located laterally in all cases with none being ventral or dorsal. None of the men had bleeding per urethra or voiding difficulty suggestive of co-existent urethral injury. Diagnosis was clinical in all cases (Fig. 1) and treatment was by surgical repair done between 3 and 9 h of presentation using a circumferential sub-coronal incision to deglove the penis, identify and evacuate the hematoma (Fig. 2); and repair the tunica albugineal defect (using interrupted polyglactin 2/0 sutures) before skin closure.

All the patients were discharged 12–48 h after surgery on oral medications and were reviewed on out-patient basis within one week of surgery. Total follow-up was for a period of 9–12 months in 4 patients (66.7%) whiles the remaining two (33.3%) defaulted after three months of follow-up. There were no early wound complications and none of the patients had erectile dysfunction or penile curvature detected during the follow-up period.

Discussion

Penile fracture is rare in our immediate environment, with only two reported cases from our tertiary hospital located in a semi-urban, hinterland region of south-western Nigeria in the last close to two decades [2,5]. A meta-analysis by Eke [7] of 1331 patients worldwide over a 35-year period (1966–2001) had also reported only 11 cases from Nigeria, further buttressing the rare status of penile fracture not only in our immediate environment but in Nigeria as a whole. For unknown reasons however, there seems to be a gradual change in this rare pattern in our immediate environment as the six patients highlighted in this report all presented over a 24-month period. This may possibly suggest an improvement in the health seeking behavior and health-related awareness of our populace. A recent publication from an urban setting of south-western Nigeria hundreds of kilometers away from our hospital also documented

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