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Case Report

Penile Fracture from Entrapment of an Erect Penis in the African Bamboo Bed: A Case Report

O. Anselm and O. Okechukwu

Urology Unit, Surgery Department, Federal Medical Centre, Abakaliki, Ebonyi State, Nigeria

ABSTRACT

Penile fracture is an uncommon urological emergency where the tunica albuginea ruptures as a result of blunt trauma to the erect penis. An 18 year old rural patient presented with penile fracture, presumably from entrapment of his penis in the African bamboo bed during nocturnal penile tumescence. He was managed surgically and retained normal erections on follow-up. Using the African bamboo bed without a mattress may lead to penile entrapment and fracture.

Key Words: Penis, fracture, African, bamboo, bed

Corresponding Author: Dr. Obi Anselm, Urology Unit, Surgery Department, Federal Medical Centre PMB 102 Abakaliki, Ebonyi State, Nigeria, Email: draoobi@yahoo.com

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INTRODUCTION

Penile fracture is an uncommon urological emergency. It occurs when the tunica albuginea of the corpora is torn as a result of blunt trauma to the erect penis. The commonest causes are vigorous coitus and masturbation (with or without the use of an appliance)[1-5]. Some rare causes have been described, such as accidental entrapment of the penis between parts of an operating table during rectal surgery[1,6]. The diagnosis is mainly clinical and urgent surgical exploration remains the mainstay of treatment[1].

CASE REPORT

An 18 year old rural patient presented with a 10 hours history of pain and swelling of the penis (Fig. 1). He was awaken by sharp pain in the phallus in the early hours of the day. He had gone to bed the previous night wearing only a loin cloth. He was lying on a bamboo bed without a mattress. Apparently, during an episode of nocturnal penile tumescence his erect penis was caught in one of the gaps of the bamboo bed (Fig. 2). On examination the distal two-thirds of the penis was swollen and tender. He had no urinary symptoms and was in otherwise good health. Urinalysis, complete blood count and hemoglobin were normal.

Surgical exploration in theatre was carried out within four hours of presentation. A 16F Foley catheter was passed transurethrally. The penis was degloved via a subcoronal circumferential incision. This revealed a hematoma and a 0.5-1.0 cm transverse tear of the tunica albuginea of the right corpus cavernosum at the mid-penile level. The hematoma was evacuated and the tear in the tunica albuginea was sutured in two layers with continuous 3/0 Vicryl. Artificial penile erection using 20 ml normal saline injected with a butterfly needle into the right corpus cavernosum was used to ensure there was no penile angulation.

The degloved penile skin was pulled up and the circum-coronal incision was sutured in two layers with 2/0 chromic catgut. Elastic dressing was applied to the phallus with the glans exposed. Broad-spectrum antibiotics and analgesics were given post-operatively. The transurethral catheter was left in place

Fig. 1: Pre-operative photograph of penile fracture showing "eggplant deformity".

Fig. 2: African bamboo bed.

for one week. Post-operative recovery was uneventful. At two years follow-up the patient reported normal erections.

DISCUSSION

The first documented case of penile fracture is credited to an Arab Physician, Abul Kasem, in Cordoba over 1000 years ago[1]. In penile fracture the tunica albuginea enclosing one or both corpora carvenosa is torn by blunt force applied to the erect penis. In more severe injuries the corpus spongiosum and urethra may be involved[1,2]. The resultant hematoma usually contained beneath Buck's fascia, thus limiting the swelling to the phallus. However, if Buck's fascia is torn the swelling may track beneath Scarpa's fascia to involve the scrotum, perineum and supra-pubic area[1,7].

Penile fractures most commonly occur from coitus or penile manipulation, mainly in the form of masturbation. Geographical variation in etiology has been noted, with vigorous vaginal intercourse being the cause in 30-50% of cases seen in the Western hemisphere, whereas those from the Middle East resulted mainly from penile manipulation at masturbation[1,8]. It has also been reported to occur while attempting to tuck the erect penis into the underwear[4], or hurriedly removing the erect phallus from the underwear[1,5]. Fernstrom reported an iatrogenic case where a patient's penis was crushed between the two leaves of the operating table while undergoing rectal surgery[1,6].

Our patient's penis was trapped between the gaps of an African bamboo bed on which he was sleeping, presumably during an episode of nocturnal penile tumescence. The bamboo bed is widely used in several parts of rural Nigeria and is constructed from planks cut from the bamboo tree (Fig. 1). Unfortunately, for economic reasons these beds are used without mattresses. At best, a blanket may be spread over the bamboo bed.

The clinical diagnosis of penile fracture is based on the history and physical examination[1,9]. The classical history is that of a sudden cracking sound, associated with pain, rapid detumescence and subsequent swelling and deviation of the penis to one side[10]. There may be hematuria, difficulty in passing urine or retention, especially if the urethra is involved[7,11]. In such patients the swelling may extend to the perineum. Our patient did not give a history of a cracking sound, because apparently his event occurred during sleep. His swelling was limited to the penis. The appearance of the penis has been aptly described as "eggplant deformity"[9] or "aubergine sign"[1,12]. An alternative terminology we find useful is "cobra head appearance". In some instances there may be need for imaging with ultrasonography, color Doppler scanning, magnetic resonance imaging[1] or cavernosography[1,10] to delineate the nature and severity of injury. Urethrography can be used to assess suspected urethral rupture[13].

Urgent surgical exploration and repair is the mainstay of treatment of suspected penile fracture[1,9,10,14]. However some authors have advocated conservative management[15] ,especially when the patient presents very late or cavernosography suggests a mild laceration of the tunica albuginea. Conservative management includes splinting, cold compresses, anti-inflammatory and analgesic medication and fibrinolytics[1,15]. Conservative management is associated with complications such as curved or painful erections, erectile dysfunction, arteriovenous fistula, infection, necrosis of the penile skin and plaque formation[1].

Approaches for surgical exploration of penile fracture include degloving[1,16], direct longitudinal, inguinoscrotal and high scrotal midline raphe incisions[1]. The choice depends on the perceived site of fracture or the surgeon's preference. A degloving incision allows excellent exposure of the three corpora, yet may be complicated by abscess and skin necrosis[1]. Our patient had a degloving incision and, apart from superficial wound infection which resolved within a few days, recovery was uneventful.

Penile fracture is an uncommon injury in Nigeria. The use of the African bamboo bed without mattress cover may be a cause of penile fracture in rare cases.

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