MANAGEMENT OF PENILE FRACTURE AT KEFFI, NORTH CENTRAL NIGERIA-CASE SERIES

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Abstract

Background: Fracture of the penis is a urological emergency. It is infrequent though increasing in our environment due to rise in over-zealous and vigorous sexual practices.

Patients: Four cases of penile fracture managed at our centre whose ages range between 25 - 45 years and who presented at three days, two weeks, one week, and three hours duration respectively. Diagnosis was made by clinical history and examination findings suggestive of penile fracture.

Intervention: All the patients had surgical repair of the rents in the tunica albuginea and a primary urethroplasty for the patient who had an associated urethral injury. The repairs were done using a vicryl suture.

Results: Two patients had penile fracture following sexual intercourse (one was from reverse coital position) and the other two had penile fracture from masturbation with one having associated urethral rupture. The four patients had surgical repair. Two of the patients had satisfactory sexual function and voiding post repair and two defaulted on follow-up.

Conclusion: Most patients with penile fracture still present late in our environment. Immediate surgical repair is advocated in order to ameliorate morbidity.

Keywords: penile fracture, tunica albuginea, detumescence, repair, erectile dysfunction.

Introduction

Penile fracture is a urological emergency which is described as the disruption of the tunica albuginea with rupture of the corpus carvenosum.[1,2] It is mainly caused by trauma to the erect penis either during sexual intercourse or during penile massage, masturbation or when an erect penis is forcefully manipulated or bent and during a fall on an erect penis.[1,2,3] The pathology is as a result of laceration or tear in the tunica albuginea which is the covering of the erectile bodies, corporal cavernosa with concomitant tear of the Buck's fascia as well. The rupture may extend to the corpus spongiosum and the urethra.[4] Presentations are penile pain, immediate penile

detumescence, penile swelling, discoloration and deformity. Penile hematoma usually results as blood extravasate from the cavernosal sinusoids into the sub-dartos space.[1,2] The extent of hematoma depends on the integrity of the Buck's fascia following penile fracture, it may be limited to the skin and tunica if the Buck's fascia remains intact resulting in an eggplant deformity (Aubergine sign) or extends to the scrotum, perineum or suprapubic region if the Buck's fascia is breeched.[2]

Prompt surgical repair is the standard care as most conservative approaches have been found not to yield satisfactory outcomes.[4,5,6] Common complications that may follow conservative treatment include painful erection, penile angulations, penile plaque formation, arterio-venous malformations and erectile dysfunction.[5,6]

In this case series, we presented four cases managed at our centre in 2019.

Case 1

O.G. is a 28-year old male undergraduate who presented with complaints of penile swelling and abnormal curvature of 3 days duration. He sustained injury to the erect penis while having sexual intercourse with his girlfriend. His turgid penis slipped out of the vagina and hit the inner part of the girl's thigh. This led to abrupt detumescence, painful penile swelling and sideways curvature of the penis. There was no difficulty in voiding or urethral bleeding.

Examination revealed a young man in good general condition but with swollen penile shaft which was tender and curved towards the right side. A size 16 Fr urethral catheter was passed and intravenous antibiotics commenced. He then had penile exploration via a distal circumcising incision with degloving of the penis under spinal anaesthesia. Intraoperative findings were edematous phallus, angulated at the base, moderate sub-dartos hematoma and 2 cm laceration on the tunica albuginea at the base and 1 cm mid shaft laceration of the right corpus cavernosum. The lacerations on the tunica albuginea were repaired with 3/0 vicryl in continuous fashion. The urethral catheter was removed 72 hours after wound review.

The patient did well after surgery and was discharged to the clinic for follow up. He was satisfied with his erectile function and no other adverse outcome post operatively.

Figure 1: Degloved penile shaft showing the 2 laceration sites on the tunica albuginea

Case 2

K.S is a 30-year old commercial driver who was brought into the accident and emergency department with complaints of penile swelling and pain which followed injury sustained 2 weeks earlier during sexual intercourse with his girlfriend. The woman squatted on him while the patient was on his back during the intercourse. His erect penis accidentally slipped out of the vagina and hit the perineum of the woman. He heard a crack sound followed by complete detumescence of the penis and progressive painful swelling. There was no difficulty in voiding or bleeding per urethra. He had futile management efforts initially in a private hospital for 2 weeks with intravenous antibiotics and analgesics before he was referred to our department.

Examination revealed an asymmetrically swollen penis mainly on the right side of the shaft. There was slight tenderness.

A diagnosis of improperly managed penile fracture was made. He had penile exploration under spinal anesthesia. A circumcising incision and degloving of the penis was made with findings at surgery of extensive tear on the right side of tunica albuginea measuring 8 cm x 3 cm. This was repaired with vicryl 3/0 sutures and firm penile dressing was applied. He developed surgical site infection and superficial wound dehiscence which was managed with daily dressing and oral antibiotics. Wound healed by secondary intention and he was subsequently discharged to the outpatient clinic. He defaulted follow up and as such a history of erectile function was not ascertained.

Figure2: (a) Markedly swollen penis following penile fracture (b) extensive laceration on right tunica albuginea

Figure 3: (c) Repaired tunica albuginea (d) skin closure

Case 3

I.M. is a 26-year old medical records officer who presented with complaints of penile swelling of 2 weeks duration. He sustained blunt penile injury during masturbation and developed painful penile swelling and abnormal curvature thereafter. He managed himself at home by self-administering oral antibiotics and analgesics for 1 week after which he presented to our hospital when there was no improvement.

External genitalia examination showed swollen penis which was tender and fluctuant.

A diagnosis of neglected penile fracture was made.

Had penile exploration under spinal anaesthesia. A distal circumcising incision and degloving of the penis was made and the intraoperative findings were edematous phallus at the midshaft, with adhesions, sub-dartos hematoma and 4 cm x 2 cm ragged longitudinal laceration of the right corpora cavernosum.

Hematoma evacuation was done and tunica albuginea repaired with 4/0 vicryl

Figure 4: Penile shaft at presentation (left) and intraoperative findings of hematoma after degloving of the penis. There was a wide defect on the tunica albuginea of the right corpora carvernosum (right)

Case 4

A.A. is a 38-year-old civil servant who presented with complaints of penile pain and abnormal curvature of 3 hours duration which resulted from a fall on an erect penis following masturbation while watching a "porn movie". There was a pop sound, sharp pain with immediate detumescence and abnormal curvature of the penis. He developed bleeding per urethra subsequently.

On examination, he was anxious looking and in mild painful distress with asymmetrical swollen penis with lateral curvature to the left

of the phallus and blood at the external urethral meatus. He had mild suprapubic distension that was mildly tender.

A diagnosis of penile fracture with urethral rupture was made. He had immediate penile exploration under spinal anaesthesia. A distal circumcising incision with degloving of the penis was made with intraoperative findings of sub-dartos hematoma collection, 2 cm x 3 cm right sided tunica albuginea rent at ventral proximal shaft, and 1.5 cm longitudinal rent on the ventral urethral wall. Four hundred mls of bloody urine was drained from the urinary bladder when urethral catheter was passed transurethrally after penile degloving. Primary repairs of the tunica albuginea and urethra were done using vicryl 3/0 and 4/0 sutures respectively, over a size 16 Fr silicon urethral catheter earlier passed. Occlusive dressing was done with penile elevation. Urethral stent was removed 2 weeks post-operative and he had satisfactory urinary stream and erectile function. He was counseled to abstain from sexual activities for 3 months.

Discussion

Penile fracture is common among young men usually less that forty years of age who constitute the bulk of active sexual population and usually occurs during vigorous sexual intercourse.[1] Most cases occur during consensual intercourse[7] and more likely when the female partner is on top.[8] In our series the age range was 25 –45 years similar to the range reported in previous studies.[1,9]

Majority of patients will hear a sudden cracking sound of the erect penis once the fracture occurs with sudden detumescence. Penile pain and swelling on the side of the fracture eventually result.[4] When the corpus spongiosum and the urethra are involved, the patient may present with hematuria (microscopic or gross) and difficulty in passing urine.[4]

The patients may choose not to seek medical attention with a specialist on time due to embarrassment,[3] in some cases due to the fact that penile factures occurred during illicit sexual acts or during extramarital sex.[2] Two of the three cases presented late due to the reasons above.

In most cases, diagnosis is made by detailed clinical history and physical examination alone. In unusual cases, corporal carvenosography may show a filling defect and extravasation of contrast at the suspected

site. Corporal ultrasonography and magnetic resonance imaging (MRI) may also help in making a diagnosis by localizing corporal injuries. Urinalysis may show microscopic or gross hematuria in cases of associated urethral injuries and retrograde urethrocystography is useful to diagnose urethral injuries and urethral stricture that may develop later.[4,6]

Various conservative approaches of care used in the past included the use of ice packs, urethral catheterisation, penile splints, erection-inhibiting estrogens and anti-inflammatory drugs, fibrinolytics agents and so on.[6] These were associated with poor outcome and high rates of complications. The standard care therefore is immediate surgical repair of the tunica albuginea.[1,5,6,10]

The common side of rupture was the right side.[11,12] This is the same with our series. Associated urethral injury if present is managed with urinary diversion and urethroplasty either immediately or at a later date.[3,4,12] One of the patients in our case series had associated urethral laceration which was repaired primarily over a urethral stent. This was because it was a linear rent and he had no urethral tissue loss.

The early postoperative complications include surgical site infection, infected hematomas, abscess formation, wound dehiscence, and penile skin necrosis while on the long run some patients may develop painful erection, arterio-venous fistula formation, erectile dysfunction, penile plaque formation, urethral stricture, and penile chordee.[1,6,13] In our series, a patient developed superficial surgical site infection which healed by secondary intention following daily wound dressing. One of the patients was lost to follow up and there was no aforementioned complications found in other patients.

Conclusion

Penile fracture is an avoidable urological emergency which may lead to significant morbidity if there is delayed presentation. Sex education is paramount among young men, as this will ameliorate vigorous sexual behaviours which is the common cause of penile fracture of the presented cases. Emphasis on prompt surgical intervention is the key to avert erectile dysfunction and decreased morbidity.

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