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Original Research

Metachronous Testicular Loss Following Testicular Torsion; A Pathology requiring a time dependent intervention: A Case Report and Review of the Literature

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Abstract

Bilateral metachronous testicular torsion is rare, few cases are reported in the literature. A high clinical index of suspicion is required to avoid a delay in diagnosis and intervention on the part of the managing physician and if necessary avoid delayed referral. It is also important to educate patients on the possibility of this condition and the need for timeous presentation at the hospital to avoid testicular loss. We present a case of a 24-year-old who presented 48 hours after sudden onset of left testicular pains after an initial delay of 24 hours at a private hospital, where he had analgesics and antibiotics. He previously had right orchidectomy 10 years ago for right testicular torsion and left orchidopexy, after an initial delay in presentation. Examination findings revealed an oedematous left hemiscrotum, tender with hard, indurated knotted mass and absent testis in right hemiscrotum. He immediately had scrotal exploration with findings of a gangrenous left testis with 540 degrees anticlockwise twist, he subsequently had orchidectomy. Post-operative recovery was uneventful. Hormonal parameters revealed hypergonadotrpic hypogonadism, 2weeks after surgery, he was placed on testosterone replacement therapy and counselled for immediate sperm banking. Bilateral testicular torsion is rare, it is important to emphasize to the patients that it can occur, despite orchidopexy, therefore the need to present early to avoid testicular loss and the challenges of hypogonadism and infertility. In the literature it is documented that use of non-absorbable sutures and more than two-point fixation may reduce risk of recurrent testicular torsion.

Keywords: Case Report; Hypogonadism; Metachronous; Orchidectomy; Orchidopexy; Testicular Loss; Testicular Torsion.

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Introduction

Testicular torsion is a surgical emergency. The incidence of testicular torsion in patients under the age of 25 is estimated at 1 per 4000.[1] The peak incidence occurs in males between the ages of 12 and 18 years, yet it can occur in any age group.[2] It remains the most common cause of testicular loss in this age group.[3] It is the second most common cause of acute scrotum.[4] The diagnosis of testicular torsion is clinical, relying on history and physical examination, urgent surgical exploration is indicated, however in doubtful cases scrotal ultrasonography can be a useful diagnostic tool, if it is readily available.[5] The differentials include, epididymo-orchitis, scrotal trauma, subacute testicular cancer.[6]

Testicular salvage rate in some studies is put at 97.2%, when patients presented within the first 6 hours and declines with delay in presentation and urgent exploration to 7.4% in 48 hours.[7] The rate of testicular loss and orchiectomy in Sub -Saharan Africa is put at 72%[8], several factors have been attributed to the high rate of orchiectomy in Sub- Saharan Africa, these include delay in consultation, distance of referral centers from primary care centers, diagnostic dilemma, delay in hospital transfer and the cost of treatment [9,10]. It has also been documented that authors who insist on Doppler ultrasound scan had a higher orchietomy rate,[11] as it has been stated that Doppler ultrasound before surgery was safe, feasible and useful in selected cases but should not be a reason to delay surgery.[12]. Literature search has shown few cases of metachronous testicular loss following testicular torsion, we report a recent case of testicular loss following torsion of the testis at different time due to delayed presentation.

Case report

We report a 24-year-old Nigerian male, who presented with a 48-hour history of sudden pain and swelling on the left testis. Pain was severe, sharp in nature and radiates to the lower abdomen, this was following sexual intercourse. He presented to a private hospital 24 hours after onset of pain, which was not relieved by analgesia and cold-water compress. He had antibiotics and analgesia without relief at the private hospital; hence he presented it to the emergency room of our tertiary hospital 48 hours after initial onset of symptoms for urologic consultation. He had previously had similar symptoms 10 years ago on the right testis for which he similarly presented late after 72 hours to the pediatric surgeon and had right orchidectomy following torsion with gangrenous right testis and left orchidopexy.

Physical examination at presentation revealed vital signs were stable; pulse 87beats/minute, blood pressure 110/70mmHg, respiration 16cycles/minute and temperature 36.8^0 C. He had an oedematous left hemiscrotum, with differential warmth, tender, absent Prehns' sign, left testis and epididymis was swollen, hard, indurated and tender. The epididymis was imperceptible from the testis with a knot-like structure. The right hemiscrotum was empty.

He had immediate scrotal exploration within 30 minutes of presentation, findings include: gangrenous testis as shown in Figure 1, with 540 degrees anticlockwise twist, fibrinous adhesions between the testis and the scrotal wall and dark colored fluid within the scrotum. Bell-clapper deformity was noted on the left. The right hemiscrotum was empty. Left orchidectomy was done and discharged two days after. Two weeks post operatively, serum testosterone, follicle stimulating hormone (FSH) and leutenising hormone (LH) values were 2.5ng/ml reduced, 15 u/l elevated and 8.7u/l elevated respectively. He was counselled on the long-term effect of hypogonadism including infertility. He was placed on testosterone replacement therapy: testosterone decaonate 75mg initially, then after 4 weeks and 10 weekly subsequently. He has since had 3 doses of testosterone.

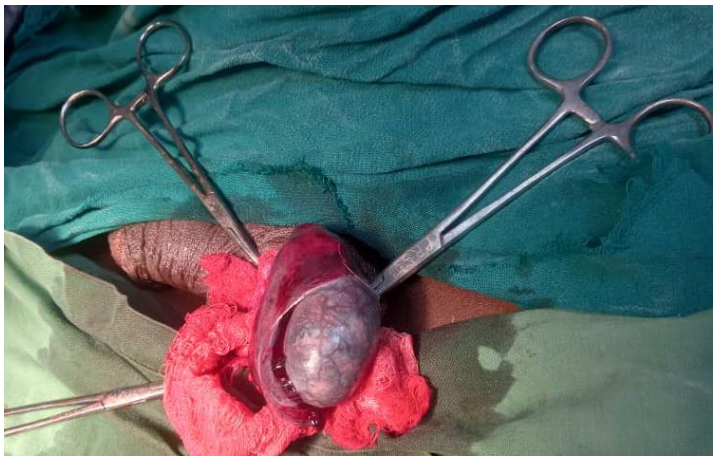

Figure 1: Showing gangrenous left testis at surgery.

Discussion

Testicular torsion is an urgent surgical condition involving incomplete or complete and single or multiple rotations of the spermatic cord around its long axis with impaired blood flow through the testis [13]. It has been described as a condition requiring time sensitive diagnosis, prompting urological intervention to avoid testicular damage [14]. The risk of bilateral synchronous or metachronous testicular torsion is put at 2 percent.[15] This case report has clearly revealed that testicular loss in the first instance was due to delay in presentation while the second loss would be attributed to both delay in presentation and delay in referral. Studies have shown reduction in salvage rate as time progresses, which is seen to decrease to only 7.4% salvage rate after 48 hours [7], this was demonstrated in this study, the study further espoused reasons attributed to high rate of orchidectomy in sub-Saharan Africa [9,10]. Recurrent testicular torsion after previous orchidopexy is rare and requires a high index of suspicion to avoid misdiagnosis and delay in management [16], which was witnessed in this index case who had previous orchidopexy on the left side after having an orchidectomy on the torsed gangrenous right testis, 10 years after patient presented with torsion of the pexed testis with the unfortunate need for orchidectomy due to delay as reported in previous literature [17-19]. In recurrent testicular torsion after previous orchidopexy, when diagnosed early, a second time orchidopexy is carried out [7,20-26]

In bilateral synchronous or metachronous torsion, the consequences of bilateral orchidectomy are grave, for potentially non-salvageable testis, this would include irreversible infertility and androgen deficiency,[27] this were taking into consideration early in this case report hence the need for hormonal profile post second orchidectomy with resultant reduction in testosterone and elevated leutenising hormone and follicle stimulating hormone due to negative feedback, this informed the need for early testosterone replacement therapy and counselling for donor assisted reproduction in future or explore other options like adoption. It is important to take steps to prevent recurrent or metachronous testicular torsion, this can be achieved by fixation of the detorsed testis using non absorbable sutures[28], it is also recommended that fixation of testis in at least two points, theoretically prevents torsion[3].

Conclusion

Metachronous testicular torsion though rare occurs, it is expedient to have a high index of suspicion despite previous orchidopexy to avoid delay in diagnosis, intervention to avoid testicular loss. The challenges of bilateral testicular loss such as hypogonadism and infertility are severe; testosterone replacement therapy should be considered. Use of non-absorbable sutures has been recommended along with at least 2-point fixation during orchidopexy to reduce the chances of recurrent testicular torsion.

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