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TESTICULAR TORSION: CASE REPORT

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SUMMARY

This is a report of bilateral testicular torsion. The objective of the report is to highlight the serious implications of misdiagnosis of testicular torsion. Other than loss of the testis due to necrosis in unilateral torsion, immunological damage of the opposite testis occurs. Early, accurate diagnosis, and institution of the appropriate treatment are desirable to prevent total loss of reproductive potential in the affected male.

INTRODUCTION

Testicular torsion is a twist of the spermatic cord which was recognised as a surgical emergency way back in 1839 when it was first described in a case affecting undescended testis(1). Twisting or torsion of the testis results in occlusion of the gonadal blood supply, which if not relieved, leads to necrosis. The intravaginal torsion is more common than extravaginal torsion and is predisposed to by an abnormally high investment of the spermatic cord by the tunica vaginalis. Extravaginal torsion has been found to occur commonly in the perinatal period. Testicular torsion accounts for 50% of all acute scrotal conditions in young adults. It is most common in adolescent boys, though no age is exempt(2). The mean age within the metropolis of Nairobi was found to be 20.5 years(3). Intra-uterine torsion of the testis which although rare is being recognised with increasing frequency(4).

Late presentation to hospital is the major cause of delay in diagnosis, and the resultant testicular infarction leads to orchidectomy in patients with torsion. However people working in referral institutions come across a significant number of patients who present late after delays at peripheral institutions.

CASE REPORT

A twenty year old male presented to the surgical clinic at the Kakamega provincial general hospital with a history of progressive decrease in size of both testes and inability to achieve erection.

Two years earlier he had developed sudden pain followed by swelling of the right scrotum at night. He did not have a history suggestive of infection (fever, urethral discharge, frequency or general malaise). He was treated with antibiotics and analgesics at a private clinic. A year later he had a similar occurrence affecting the left scrotum and similar treatment was given. With subsidence of pain and swelling he noted that there was progressive decrease in size of the testes. At the time of presentation to the surgical clinic he was not able to achieve an erection.

Physical examination showed a young man in a good general condition but anxious. Secondary sexual characteristics and the scrotum were well developed. Well-defined, full testes could not be palpated in the scrotum. There were instead small, atrophic testes, the left larger than the right. Initial psychotherapy was started. Follow - up by the author was not continued due to change of station and employer.

DISCUSSION

The type of torsion commonly encountered is the intra-vaginal torsion. The cause is unknown but an underlying anatomic abnormality is usually present which may be malposition of the testes, bell-clapper deformity and horizontal lie(2). Undescended testes are ten times more at risk for torsion relative to normally placed testes. Possible precipitating factors in testicular torsion include cold, exercise, sexual fore play, abnormal position during sleep or sitting, sudden closing of thighs, trauma, tight pants, coughing and defecation(2).

Early diagnosis remains a clinical challenge. Even though the clinical features of torsion are typical, the commonest error is misdiagnosis and therefore delayed scrotal exploration(5,6). The sequence of events is abdominal pain located in most instances in ipsilateral iliac fossa and sometimes peri-umbilical region, the groin or loin followed by testicular pain and tenderness(6). Scrotal swelling follows soon after. Nausea and vomiting are common. Fever, dysuria and urethral discharge are absent. A history of previous attacks of pain may be present denoting episodes of torsion that corrected themselves, which occur in 20% of cases(7).

High incidence of testicular torsion has been noted in the older age group by studies in Africa while in Caucasians incidence is higher in the adolescent age(5,6). This represents a possible reason for the misdiagnosis as it occurs in the age group where index of suspicion is low for torsion(5). Magoha(3), found that 45% of the patients were placed on antibiotics and analgesics, as in the patient in this report, without prior scrotal or external genital examination by the first doctor.

The affected testis is tender and hangs higher than its fellow; the cremasteric reflex is absent on the affected side. When seen soon after the onset of torsion before scrotal swelling sets in, it may be possible to palpate the abnormality. The contra-lateral testis may lie in the abnormal horizontal position(2,7). Repeated though transient ischaemia in the recurrent type leads to gradual atrophy of testis leading to a situation called vanishing testis(7). This group of patients are at risk of developing acute testicular torsion.

Acute pain in the testes of the adolescent boy is rarely due to any other cause, though clinical assessment of the testicular torsion and epididymo-orchitis is inherently difficult. Inadequate clinical information may prevent differentiation of testicular torsion from non-surgical conditions(8). The differential diagnoses are mainly epididymo-orchitis, torsion of testicular appendages and trauma.

Imaging studies of value in confirming the diagnosis include colour doppler sonography and radio-isotope scintiscan. Radionuclide scrotal imaging (RSI) has been shown to be 100% specific and 98% sensitive in diagnosis(9). Colour doppler sonography has become the procedure of choice in evaluating testicular perfusion but false negative findings have been reported(10). Baud *et al.*(11) however, have shown that sonographic detection of spermatic cord spiral twist to be a reliable sonographic sign of torsion whatever the testicular consequences. Sonography has a prognostic value as well. In the setting of testicular torsion, normal testicular echogenicity is a strong prediction of viability(12). History and physical examination combined with selective and appropriate imaging studies where available, have enabled rapid identification of victims of torsion minimising the number of unnecessary scrotal explorations. Urgent intervention is necessary to save the testis once torsion has occurred(1-3,12). Irreversible ischaemia sets in within four to six hours when there is total compromise of blood supply. The desire to perform confirmatory tests should not add to the delay threatening the viability of the affected testis. When the duration of pain is brief, history and physical examination suggest that torsion is the most likely diagnosis, urgent surgical exploration without any confirmatory studies is recommended(7). The contra-lateral testis is fixed at the same time as the abnormality is bilateral(1,2,7).

Testicular torsion leading to orchidectomy is a major catastrophe for the patient. This unfortunate outcome is still common. Over all salvage rate is low in late presentation(3,5,6). Even when only one testis has been damaged by torsion, sub-fertility is common. Evidence suggests that the infarcted testis may incite an immune reaction to antigenic sperms(13) in those above ten years of age when they start forming, which are otherwise privileged, due to the break down of the blood- testis barrier. It is also suggested that the infarcted testis releases apoptotic activating factors

(cytokines)(14), which subsequently cause damage to the opposite testis. Hadziselimovic *et al.*(14) found that apoptosis was increased in the contra-lateral testes in all patients who presented with unilateral testicular torsion. This occurred predominantly in spermatocytes, early and late spermatids, and setoli's cells.

CONCLUSION

Six hours is a very short time in which everything that should be done has to be accomplished to save a testis that has undergone torsion. This calls for adequate knowledge of the condition by the would be victims to enable them to present early, and by medical health providers to respond appropriately. Since the diagnostic tests mentioned are not universally available, there is need to maintain a high index of suspicion and bias towards exploration in acute scrotal pain. Rarely can the other conditions that present with acute scrotal pain be established beyond doubt and immediate scrotal exploration should be the first line of management. Greater effort in health education will positively influence direct self-referral to hospital minimising the delay that occurs outside hospital.

Non-urgent exploration of the scrotum is still mandatory even in late presentation where one suspects that the affected testis cannot be salvaged. The necrotic testis is removed since it is a potential source of immunological reaction in those over ten years of age, and orchidopexy of the contra-lateral testis has to be done.

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