

Traumatic Dislocation of the Testes

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Abstract

Dislocation of the testes is an uncommon sequela of trauma. In contemporary times, it is usually associated with motorcycle accidents. We present 2 cases of unilateral traumatic testicular dislocation and 1 case of bilateral dislocation, all involving motorcyclists. Spontaneous reduction is rare. Early reduction is recommended because of histological changes seen in dislocated testes. Surgical reduction is often required. The significance of this condition must be emphasised to doctors managing trauma patients and early urological consultation obtained.

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Introduction

Traumatic dislocation of the testes is uncommon. The first case was reported by Claubry in 1818 in Paris, when a 20-year-old soldier was run over by a wagon resulting in bilateral suprapubic dislocation of his testes. Since then, 52 cases have been reported. Of these, 39 were unilateral and 13 bilateral. We like to add to these, 2 cases of unilateral and 1 case of bilateral traumatic luxation of the testes.

Case Reports

Case 1

A 20-year-old motorcyclist was admitted with multiple injuries after a road traffic accident. He sustained fractures of the pelvis among other injuries. During physical examination, it was noted that his left scrotum was empty and a mass was palpated in the inguinal region (Fig. 1). He was certain that both testes were in the scrotum prior to the accident. Unfortunately, the dislocated testis was forgotten while managing his other more severe injuries. Six months later, the patient reminded the attending doctor of his dislocated testis and a consult was made to the urologist. Exploration was performed and the left testis was found to be adherent in the subcutaneous plane of the left groin (Figs. 2 & 3). The testis was freed and reduced into the scrotum.

Case 2

A 20-year-old motorcyclist skidded while trying to avoid a car. He suffered a comminuted fracture of his left

distal radius as well as a fracture of the inferior pubic ramus. At about six months post-accident, he brought to the attending doctor's attention of bilateral inguinal swellings since the accident. Examination revealed an empty scrotum with bilateral soft masses in both inguinal regions. Operative reduction was performed and both testes were noted in the groin superficial to the external oblique aponeurosis, lateral to the superficial inguinal ring. They were mildly congested but otherwise normal in size and consistency. The testes were freed from the adhesions and bilateral orchidopexy was performed.

Case 3

An 18-year-old motorcyclist collided with a car and sustained multiple fractures. A tender soft mass was palpated in his left inguinal area, associated with an empty left scrotum. He had no history of undescended testis. During open reduction of his fractures on the same night of admission, close reduction of the left testis was successful under anaesthesia. Subsequent follow-up showed the testis to remain intra-scrotal in position.

Discussion

Traumatic dislocation of the testes is a sequel of trauma which results in a previously normal testis assuming a non-scrotal position. Ockuly¹ in 1946 made the criteria that the testes should be initially both normally descended and located. He also pointed out that the path of dislocation passes through normal anatomical aper-

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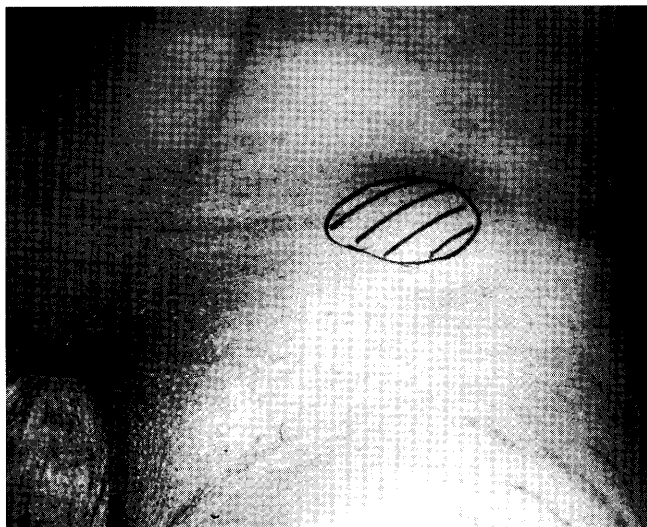


Fig. 1. Position of the testis in the left groin.



Fig. 2. Testis freed from the underlying external oblique aponeurosis.

tures, or along fascial planes to reach its final abnormal position.

It was Alyea² in 1929 who classified the positions of the traumatic luxated testes as either superficial or internal. Superficial positions include the pubic, superficial inguinal, penile, perineal, crural (in the thigh superficial to the fascia lata) and even in the prepuce.³ Internal positions refer to the inguinal canal, femoral canal, abdomen and acetabulum. Superficial dislocations are more common than internal dislocations.

The main cause of traumatic dislocation is a direct force pushing the testicle out of the scrotum. Spasm of the cremasteric muscle has been implicated as a contributing factor but its significance is uncertain. The usual mechanism of injury is a forceful displacement of the testis caused when the victim is knocked to the ground by a vehicle and a wheel rolls over the scrotum. The direction of force determines the final position of the testis. Thus the testis may be forced along any radius described by the spermatic cord from the pivotal point at



Fig. 3. Testis with spermatic cord completely freed to the superficial inguinal ring.

the external inguinal ring. Goulding⁴ in his report in 1976 noted the association of traumatic dislocation of the testes with motorcycle accidents. He suggested that the sudden deceleration of the motorcycle catapults the rider forwards. Because the rider is straddled over the saddle, his perineum and scrotum are struck in the midline by the gasoline tank. The shape of the tank is such that it drives a smooth wedge which forcibly displaces each testis in a lateral and superior direction. Since that report, all reported cases of traumatic dislocated testes, including our 3 cases, involved motorcyclists.⁵⁻⁹

It has been suggested that certain people may be predisposed to traumatic dislocations; those with widely open external inguinal ring, an indirect inguinal hernia or an atrophic testis. A traumatic force might force the testis into the inguinal canal or the abdominal cavity in such instances.⁹ While this may be true for those with internal dislocations, this view has been questioned by other authors who noted the higher frequency of superficial location of the luxated testes.

Because of the button-hole type of laceration in the cord covering, spontaneous reduction of a dislocated testis is rare. In a review of the literature, only 2 such cases were reported.^{7,10} Close reduction should be attempted with sedation at the time of presentation before oedema sets in or after the fourth day when the initial oedema has subsided and before fibrosis occur. However, successful close reduction is seldom achieved. In only 8 cases, including case 3 in this report (8/55), were close reduction successful.⁸ Of these 8 cases, only 3 (including our case)^{8,11} could be reduced at the time of presentation, probably because oedema and fibrin accumulate early post-trauma.⁸ Unfortunately, delays in reduction can result in irreversible testicular changes. In four reported biopsies of dislocated testes, absent spermatids, decreased spermatogonia and a relative increase in Sertoli cells were noted.^{4,6,7,9} Hence, it is

recommended that reduction should be undertaken at the earliest opportunity. An attempt at close reduction may be repeated on the fourth day post-dislocation if the initial attempt failed. If the attempt again fails, then another attempt should be done under anaesthesia, and should it again fail, surgical reduction should be performed and the testis reduced to the bottom of the scrotum with one or two tacking sutures to ensure no torsion or displacement occur in the postoperative period.⁶

If early intervention is not possible, the dislocated testis should be studied with duplex ultrasonography and pulsed Doppler analysis to exclude testicular torsion and/or testicular rupture.⁹

The diagnosis of testicular dislocation may not be easy, especially in the presence of multiple injuries or a scrotal haematoma arising from the rupture of the gubernaculum. This condition must be excluded in accidents involving motorcyclists. Even when diagnosed, it may not be regarded with concern. This may be due to the rarity of the condition and the tendency of the attending doctors to focus their attention on other more severe injuries. The significance of dislocated testes must be made known to doctors managing trauma patients and early consultation with the urologist emphasised. It

has been suggested that the incidence of traumatic testicular dislocations is probably under-reported, even though it has been suggested that this condition should be considered a surgical emergency until proven otherwise.⁸

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