CASE REPORT

Peno-scrotal degloving injury following motor vehicle accident—a case report

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Abstract

Male genital injuries in the form of avulsed laceration of penis and scrotum are less frequent injuries in urological practice. The cases that occur are mostly caused by road traffic accidents, animal attacks, machinery-related accidents and physical/sexual assaults. Here, we report a case of a 28-year-old male with avulsion and traumatic degloving of the penile and scrotal skin with the exposure of the cavernous and spongy penile body, bilateral testes and total amputation of scrotal skin secondary to motor vehicle accident from Nepal. The patient was managed by emergency surgical debridement and reconstruction of the avulsed penile skin and burial of testis in the medial thigh pockets with primary suturing and hemostasis of the amputated scrotal region, which healed with satisfactory esthetic results with normal voiding function and erection of penis.

INTRODUCTION

Male genital injuries are rare to occur relatively due to isolated location and mobility of the genitals. The peno-scrotal degloving injury with total amputation of the scrotum with relatively normal testicles and spermatic cord are unusual. Although injuries of this kind are non-lethal, the lesions could be incapacitating and psychologically overwhelming to patients if not treated appropriately [1]. Extensive perineal wound, total scrotal amputation with exposed testes are challenging as the management requires cosmetic and functional restorations.

CASE REPORT

A 28-year-old male was brought to the emergency department (ED) after a road traffic accident. The history provided by the accompanying persons stated that the patient was riding a motorbike under the influence of alcohol when he collided with a lorry parked at the side of the road. On arrival the patient was oriented to time, place and person and hemodynamically stable; however, he complained of mild pain over the perineal region. On examination, there was a complete degloving of the penile shaft and scrotum exposing bilateral testis and epididymis connected on intact spermatic cord (Fig. 1). The degloved penile skin was attached to the coronal sulcus; however, the skin overlying the scrotum was amputated and brought to the ED in a polythene bag. The patient received immediate wound care in the ED. The wound care was immediately done in the ED in the form of saline wash, debridement and light dressing. The patient was further treated with analgesics, prophylactic broad-spectrum antibiotics and antitetanus prophylaxis. Wound swab was obtained for
Figure 1: Complete degloving of penile shaft and scrotum.

Figure 2: Both the Testes buried in the medial thigh forming a medial thigh pocket and penile shaft sutured with the abdominal skin.

Figure 3: Revised full thickness skin graft sutured with Prolene 4-0 over the penile shaft.

culture and sensitivity. Emergency ultrasound revealed normal but exposed penile erectile tissues, bilateral testes and epididymis with no urethral injury. The blood picture including the renal and liver functions tests were normal. The patient was then shifted to operation theater. A Foley’s catheter was inserted for urinary bladder drainage and careful debridement of the devitalized tissue and removal of foreign particles with normal saline irrigation, povidone iodine and hydrogen peroxide were done under spinal anesthesia. The assessment of the extent of penile damage was done, and the viability of the testicles and corporal integrity were confirmed.

The avulsed skin of the penile shaft was retracted and sutured with the abdominal skin. Both the testes were buried in the medial thigh forming a medial thigh pocket and closed by primary suturing (Fig. 2). The patient admitted at surgery unit received broad-spectrum antibiotics. After 15th postoperative day, the ischemic changes were noticed on the penile skin. Antibiotics were upgraded as per the wound culture and sensitivity report. Revised full thickness skin graft was performed and placed circumferentially over the penis and sutured with Prolene 4-0 (Fig. 3). Patient was discharged after 3 weeks of hospital stay.

DISCUSSION

Due to the relative isolation and mobility of genitals, the traumatic injury of penis is usually rare. The overlying skin of the penis is loose, elastic and highly mobile to accommodate both the rigid and flaccid state of the penis. This loose base predisposes the skin to be avulsed easily [2]. Deep erectile tissues of the penis survive the damage, as the skin separation follows the superficial dartos fascia and endogenous skin and erectile tissue of the glans penis rarely get injured [3]. Such degloving penoscrotal injuries are less painful [3].

Majority of peno-scrotal avulsions occur following motor-vehicles accidents [4]. Other aetiologies for genital avulsion in males include animal attacks and bites, sexual and physical assaults, self-mutilation, accidental injuries while operating machinery and human bites [5–8].

In road traffic accidents, the degloving injuries could be due to direct blunt force to the penoscrotal skin or due to ripping off the skin by the formation of riff knot with the ropes used in undergarments and pajamas in developing countries.

The surgeons must evaluate any concomitant urethral injury in patients with perineal trauma or pelvic bone fractures who present with blood at the urethral meatus, gross haematuria or inability to void. Clinicians should initiate psychological, interpersonal, and/or reproductive counseling for patients with genital trauma and their treatment options when the loss of urinary, sexual and/or reproductive function are anticipated. Complications regarding infections, necrosis of the graft tissue, wound dehiscence and gaping, reduced spermatogenesis due to the loss of dartos muscle and fascia for temperature regulation, painful erection secondary to penoscrotal scars and cicatrizations could be anticipated.

The management of penoscrotal avulsion includes a thorough cleaning and debridement of devitalized tissues and the exposed tissues are covered with viable flaps from the remaining skin. Less than 50 percent of the scrotal skin loss can undergo primary surgical closure immediately after trauma, with the remaining surrounding viable tissue. Embarrassment associated with the site, mechanism, or circumstance of injury often results in late presentation and may complicate the diagnosis and management. The restoration of a durable functional cover of the
testes and shape of scrotum is important for physiological, social and psychological reasons, especially in young males. When there is no available scrotal skin as in our case, testicular burial in the suprapubic region or banking of the testicles in the medial thigh pockets or reconstruction of the scrotum by tissue expansion could be done. This treatment technique provides an easier and staged surgical approach to the surgical team in a tertiary care center with less psychological and economic impact as per the patient perspective.

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