



## Case Report

# Near Total Penile Amputation in A Child Following Accidental Entrapment in A Machine Belt

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## Abstract

Penile injuries in childhood are uncommon as the penis is mobile and largely protected by its position. The cause and type of penile trauma varies in severity from a simple entrapment in a zipper to the more serious injuries and total emasculation. We report a 14-year-old male child who presented to the casualty of our hospital with a near total amputation of the penis following entrapment of his penis in a machine belt. A degloving injury was noted over the shaft of the penis, with a deep contused lacerated wound over the mid shaft region and the distal segment hanging with a small shred of tissue. The penis was reconstructed. Penile reconstruction done under strict sterile conditions and using the residual tissues gives good functional and cosmetic results.

**Keywords:** Penis, penile amputation, trauma, reconstructive surgery, urethroplasty.

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## Introduction:

Penile injuries in childhood are uncommon as the penis is mobile and largely protected by its position. <sup>[1]</sup> When compared to an adult, paediatric penile trauma has different underlying causes and forms of trauma. <sup>[1]</sup> Iatrogenic injuries of the penis occur following procedures such as circumcision, hypospadias surgery, or neonatal primary repair of bladder exstrophy. Non-iatrogenic causes of penile injury include child abuse, traffic accidents, and animal attacks. <sup>[2-4]</sup>

The cause and type of penile trauma varies in severity from a simple entrapment in a zipper to the more serious injuries and total emasculation <sup>[1,4]</sup>, although reports of trauma to the external genitalia in children are sporadic. Most children with zipper injuries can be managed in the emergency department itself with no general anaesthesia <sup>[4,5]</sup>, although a general anaesthetic may be required on occasions. Children have a tendency to be exposed to animal bites, of which the most common cause is a dog bite. <sup>[6]</sup> Although most of these injuries are not severe, total or near total amputation of the penis has also been reported. We report a 14-year-old male child who presented to the casualty of our hospital with a near total amputation of the penis following entrapment of his penis in a machine belt.

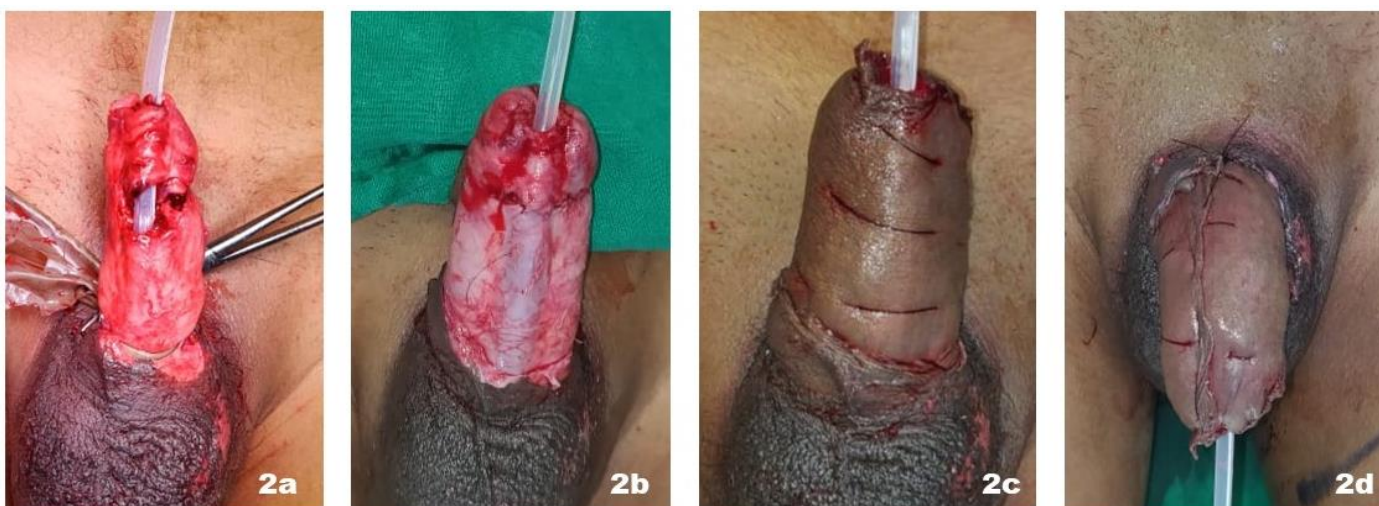
**Case report:**

A 14-year-old male child presented to the casualty of our hospital with a near total amputation of the penis. He had been to a rice mill to observe polishing of rice. Accidentally his half pant got entangled with the belt of the machine, which rotates at a rapid speed. Along with his half pant, his penis was entangled and sustained injury. The child was brought to the hospital within 5 hours of the accident. On examination, the child was stable, with normal blood pressure and other vitals. A degloving injury was noted over the shaft of the penis, with a deep contused lacerated wound over the mid shaft region and the distal segment hanging with a small shred of tissue. The ends of the injury showed active bleeding.

The child was taken up for reconstruction under general anaesthesia. The wound was cleaned and the devitalised tissues were excised. The whole of penile shaft was degloved and the corporas were well defined. The complete urethral transection was noted, a silicon catheter was placed into the urethral through the transection and the urethra was anastomosed using 5/0 absorbable suture material (Vicryl). The transected corporal bodies showed good bleeding and were approximated using Vicryl 5/0 suture material. As there was deficient penile skin, a split thickness free skin graft was obtained from the thigh and sutured over the penis to create a cover. Post-operative outcome was good. The child was assessed 12 weeks after the injury. There were no residual curvatures noted. The penile skin had healed well. The child was experiencing good tumescence and occasional erections.



*Figure 1 a, b, c. Clinical photographs of the near total amputated penis at the level of mid-shaft.*



*Figure 2a. Operative photograph showing the transected urethra.  
Figure 2b. Approximation of the urethra and corporal bodies completed.  
2c. Dorsal appearance of the repaired penis with split thickness skin grafts.  
2d. Ventral appearance of the repaired penis.*

## Discussion:

Penile amputation injuries are uncommon injuries and need immediate surgical intervention and reimplantation. There do not exist any routine standardized procedures so as to deal with this medical condition. Circumcision performed under poor surgical conditions especially in Islamic countries for religious indications are invariably associated with complications, which are mostly avoidable.<sup>[8]</sup> The complication rate for new-born circumcision is 0.2% to 3%.<sup>[9]</sup> The most serious complication following a circumcision is the amputation of the glans or part of the penile shaft.<sup>[10,11]</sup>

A penile hair tourniquet can occasionally lead to ischemia and amputation. Similarly, mechanisms such as self-mutilation and domestic violence too lead to traumatic amputation injury to the penis. Morrison et al.<sup>[12]</sup> reported that most amputations are complete amputations, and after reimplantation a majority of people have normal urinary function (97.4%), erections (77.5%), and sensation (68.4%). The most common complications following a repair are skin necrosis (54.8%) and venous congestion (20.2%).<sup>[12]</sup>

Domestic animal attack has been reported by different authors and these attacks produce severe forms of penile trauma including total emasculation.<sup>[6]</sup> Urethral and penile injuries in the setting of an animal bite are at high risk of complications because of tissue destruction and contamination, and the consequent requirement of a more liberal debridement. Good functional and cosmetic outcomes are noted in most cases except in animal attacks that are associated with the highest rate of long-term functional and cosmetic disability, and represent a great surgical challenge.

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