

# Management of penile zipper injury: A case report

 Dilan Altintas Ural<sup>1</sup>,  Alper Ural<sup>2</sup>

<sup>1</sup>Department of Pediatric Surgery, Faculty of Medicine, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey

<sup>2</sup>Department of Plastic, Reconstructive and Aesthetic Surgery, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey

Copyright © 2020 by authors and Annals of Medical Research Publishing Inc.

## Abstract

Penile zipper injury is the most common cause of penile damage in uncircumcised children. A 4-year-old uncircumcised child admitted to the emergency due to the injury of dorsal penis caused by the zipper of his trousers. A 3 cm length of penile skin was found to be captured by the teeth of the metal zipper. Herein, we reported our management of a penile zipper injury with proper follow up and a delayed circumcision procedure in an uncircumcised child.

**Keywords:** Circumcision; penil trauma; zipper

## INTRODUCTION

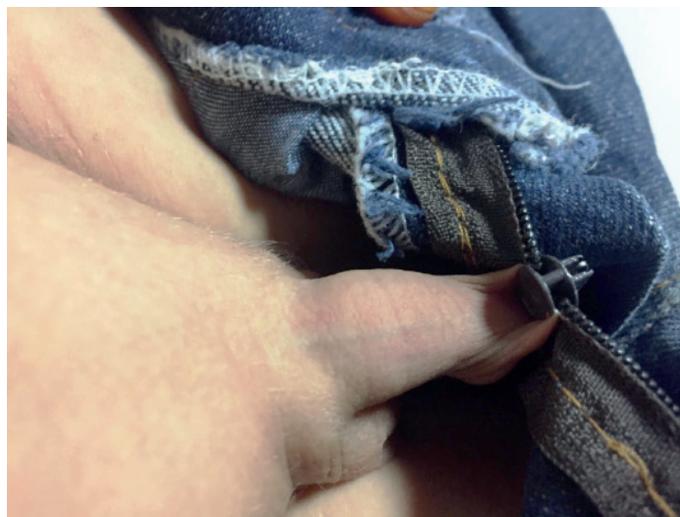
Penile zipper injuries are usually caused by the compression of the prepuce between the teeth of the zipper of trousers. These injuries are not commonly seen (1), but are actually the most common cause of penile damage in uncircumcised children (2,3). Various techniques have been reported for the treatment of this condition (4). This unique type of trauma is quite stressful for both the child and family. Herein, we aimed to report our management of a penile zipper injury in an uncircumcised child.

## CASE REPORT

A 4-year-old uncircumcised boy admitted to the Emergency Department of our university hospital. Two hours prior to his admission, the dorsal surface of his penis had got stuck in the zipper of his trousers. The patient was not wearing underwear, and the case happened when he had tried to wear his trousers quickly. On admission, the patient was extremely anxious, not cooperative, and suffering pain. Physical examination revealed a diameter of nearly 3 cm of penile skin was retained by the metal teeth of the zipper (Figure 1 a). There was minimal edema and mild bleeding in the skin. Following local anesthesia (lidocaine), we attempted to remove the slider of zipper underutilizing lubricant agents. After a few meticulous maneuvers, the slider weakened as we achieved to release the zipper and rescued the tissue from the squeezed zipper without a serious complication (Figure 1b).

His family preferred an immediate circumcision for their

child since his penis was already injured. The patient received tetanus prophylaxis, antibiotic prophylaxis and analgesic medication. After two weeks, the patient was hospitalized for circumcision procedure since preputial edema resolved. We observed the penile zipper injuries resulted on a linear epidermal loss and a limited superficial dermal injury. The superficial linear dermal wound was determined as a circumcision landmark for its proper location and direction (Figure 2a). Informed consent was obtained from the patients. The patient underwent circumcision by general anesthesia and we did not observe any postoperative complication (Figure 2b)



**Figure 1a.** Squeezed penile skin by the metal teeth of the zipper

**Received:** 17.03.2020 **Accepted:** 11.05.2020 **Available online:** 26.08.2020

**Corresponding Author:** Alper Ural, Department of Plastic, Reconstructive and Aesthetic Surgery, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey, **E-mail:** sutopal2005@hotmail.com



**Figure 1b.** Immediately after the soft tissue got rid of the zipper



**Figure 2a.** Superficial penile dermal wound due to zipper injury after 2 weeks



**Figure 2b.** Intraoperative view of the circumcision procedure

## DISCUSSION

Penile zipper injuries are usually caused by the compression of the glans between the zipper teeth (5). This unique type of injury is more common in children between the ages of two and twelve years. The most widely known mechanism of this injury type is that the foreskin is generally caught by the slider body of the zipper. Less commonly injury type can occur in the way the foreskin is captured between the teeth of the zipper and the effected tissue is pulled beyond correspondingly (6). Although the children who do not wear underwear are more prone to this injury, more than half of the patients injured in this way wore underwear. While the most common symptoms include edema and pain, necrosis can also occur due to vascular occlusion in more severe injuries (7). Approximately 80% of these injuries can be treated by reversing the zipper movement. Several methods for treatment have been described. One of the most common methods is the fast opening of the zipper by tightening the skin (8). Flowerdrew et al. described a method of using wire or bone cutters or a mini hacksaw to separate the central parts of the zipper (5). This method requires the availability of the necessary instruments and general anesthesia (9,10). In addition, if the medial rod is deep in the tissue, the procedure of cutting maneuvers can be risky as it can harm the healthy tissue.

Both patients and their parents facing such injuries are extremely afraid of repetitious unsuccessful attempts since they may further damage the entrapped soft tissue. Moreover, rigid or exaggerated maneuvers must always be avoided if there is a suspect about the comfort of the child. Any involuntary movements under anxiety will further complicate the intervention. Therefore, local or general anesthesia is almost always mandatory.

Though immediate circumcision can be performed after this type of injuries within the same day, this approach can also bring an increased risk of edema and may cause impulsive responses of family since they are not psychologically prepared for an operation mostly performed due to religious purposes. Therefore, we thought that an emergency circumcision would further increase the edema, and we also found it appropriate to postpone the operation in order to prevent a secondary anxiety for the child and the family. Nevertheless, if penis could not be saved with basic maneuvers and few attempts from the zipper where it has been stuck, we could consider transferring the patient to operation room and performing an emergency circumcision simultaneously.

To conclude, a delayed circumcision procedure will ensure a more reliable tissue, less risky operation as well as more easily obtained informed consent after zipper injuries.

*Conflict of interest: The authors declare that they have no competing interest.*

*Financial Disclosure: There are no financial supports.*

*Patient informed consent: The patient approval was received for this case report and she signed informed consent form.*

## REFERENCES

1. Mydlo JH, Harris CF, Brown JG. Blunt, penetrating and ischemic injuries to the penis. *J Urol* 2002;168:1433-5.
2. Yip A, Ng SK, Wong WC, et al. Injury to the prepuce. *Br J Urol* 1989;63:535-38.
3. Fein JA, Zderic SA. Management of zipper injuries. In: King C, Henretig FM(eds). *Textbook of Pediatric Emergency Procedures*. 2nd edition. Philadelphia:Lippincott, Williams & Wilkins; 2008.p.908-910.
4. Oosterlinck W. Unbloody management of penile zipper injury. *Eur Urol* 1981;7:365-6.
5. Flowerdew R, Fishman IJ, Churchill BM. Management of penile zipper injury. *J Urol* 1977;117: 671.
6. Wyatt JP, Scobie WG. The management of penile zip entrapment in children. *Injury* 1994;25:59-60.
7. Inoue N, Crook SC, Yamamoto LG. Comparing 2 methods of emergent zipper release. *Am J Emerg Med* 2005;23:480-2.
8. Watson CC. Zipper injuries. *Clin Pediatr (Phila)*1971;10:188.
9. Nakagawa T, Toguri AG. Penile zipper injury. *Med Princ Pract* 2006;15:303-4.
10. Mishra SC. Safe and painless manipulation of penile zipper entrapment. *Indian Pediatr* 2006;43:252-4.