



Penile amputation after neonatal circumcision: a case report

Omar Adam Sheikh, MD^{a,*}, Shukri Said Mohamed, MD^b, Ahmet Sarac, MD^c

Introduction and Importance: In children, one of the most common surgical procedures worldwide is circumcision, which has strong religious implications and is frequently performed for nontherapeutic reasons. Circumcision is typically associated with old customs. Complete penile amputation is extremely uncommon, and the prognosis is little understood.

Case Presentation: A 7-day-old male term baby was circumcised with a cauter by an inexperienced practitioner, and the patient was admitted to the department of pediatric surgery. Both the glans and the body had become discolored and necrotic. The patient was taken into the theater and given general anesthesia. The authors removed the debridement and inserted a catheter into the urethra to prevent urethral stenosis.

Discussion: The procedure of circumcision has several medical benefits and is widely performed for religious, cultural, and medical reasons. It is generally agreed that circumcision prevents against sexually transmitted diseases, penile and cervical cancer in adults, as well as urinary tract infections in children. Partial or complete penile amputation injuries are rare and frequently the result of psychotic self-harm. Operators must correctly conduct the circumcision in order to prevent the potential complications that can happen when the procedure is performed out by untrained hands. The most common cause of penile amputation injuries, whether partial or total, is psychotic self-harm. Operators must carry out the procedure carefully to prevent the potential complications that can happen when circumcision is performed by untrained hands.

Conclusion: The authors present here a case of a 7-day-old boy who had ritual circumcision with a cauter complicated by an entire penile amputation, which was treated with the insertion of a catheter to prevent the closure of the urethra. The patient reported his penis was circumcised with cautery one day later the glans and the entire penis became discolored and necrosis, unfortunately, the entire penis was lost with the overlying skin.

Keywords: amputation, circumcision, neonate, penile

Introduction

Circumcision is one of the most popular surgical procedures in the world, it is typically associated with ancient traditions having significant religious overtones and is notably frequently done for nontherapeutic purposes^[1]. The percentage of circumcised men in the world is thought to be around one-fourth. In some societies, almost all new-born boys are ritually circumcised. The procedure

HIGHLIGHTS

- Circumcision is one of the most popular surgical procedures in the world, it is typically associated with ancient traditions having significant religious overtones and is notably frequently done for nontherapeutic purposes.
- Penile amputations are most commonly caused by self-mutilation, accidents, circumcision, assault, and animal attacks.
- To avoid the potential complications that can occur when circumcision is performed by untrained hands, operators must carry out the procedure properly.

^aDepartment of Basic Medical Science, Faculty of Medicine, Somali National University, ^bDepartment of Pediatric Surgery, Mogadishu Somali Turkey Recep Tayyip Erdoğan Training and Research Hospital, Mogadishu, Somalia and ^cDepartment of the Pediatric Surgery, Samsun Training and Research Hospital, Samsun, Turkey

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

*Corresponding author. Address: 21 October Road, Waberi, P.O Box 15 Mogadishu, Somalia. Tel.: +252 615 950 095. E-mail: qooje@snu.edu.so (O.A. Sheikh).

Copyright © 2023 The Author(s). Published by Wolters Kluwer Health, Inc. This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

Annals of Medicine & Surgery (2023) 85:4083–4086

Received 12 March 2023; Accepted 10 June 2023

Published online 28 June 2023

<https://dx.doi.org/10.1097/MS9.0000000000000996>

could be carried out by numerous healthcare professionals from various backgrounds, including nonspecialized physicians, non-medical health workers, and lay persons, depending on the patient's cultural and societal contexts, opening the door to various frequencies and types of complications^[1].

Penile amputations are most commonly caused by self-mutilation, accidents, circumcision, assault, and animal attacks^[2]. Penile injuries are uncommon due to the flexibility of the penis anatomy and the protection provided by the bony pelvis^[3].

There are infrequent reports of trauma to the external genitalia; the type and extent of penile trauma range in severity from minor wounds to more serious situations leading to complete

emasculatation. Because they are uncommon and diverse, there is no specific universal treatment approach for managing them^[3].

In adults, amputation of the penis is particularly uncommon and typically takes place in the context of domestic violence, pelvic trauma, or self-mutilation linked to an underlying mental disorder. Since the location, degree, and manner of injury can vary greatly, penile amputations constitute a complicated clinical entity. Surgical treatment is technically difficult, and the resultant physical and psychological consequences are important^[4]. Now we present here a case report of penile amputation during neonatal circumcision with an unexperienced practitioner. We follow the rules of the Surgical Case REport (SCARE) 2020 guideline^[5].

Case presentation

A 7-day-old male term baby was circumcised with a cauter by an unexperienced practitioner; the patient was referred to a tertiary hospital and admitted to the department of pediatric surgery. Upon examination, we saw both the glans and the body had become discolored and necrotic due to the heat transmission of the used dithermy (Fig. 1). The patient was immediately taken by a pediatric surgeon to the operating room and placed under general anesthesia. The necrotic part is at the glans and distal penile. We attempted warming with normal saline, but the penile cutout does not appear to be viable, so we placed a 6-Fr Foley catheter (Fig. 2) to assist with urination and debrided the non-viable tissues for 2 days in the operation room under anesthesia (Fig. 3). The glans and both corpora cavernous skin were noted to be significantly macerated without identifiable arteries. We gave him intravenous and topical antibiotics (betaksim sodium and nitrofurazone cream). The third day, we released the remnant skin to close the proximal penile, followed by a layer closure of the buck's fascia, dartos, and skin with interrupted 4/0 polyglactin (vicryl rapid). Four days after the surgery, the patient was discharged with the catheter for prevention of urethral stenosis. We continue the dressing for every day up to 1 month, and there is no need for a skin graft. After that, we removed the catheter after

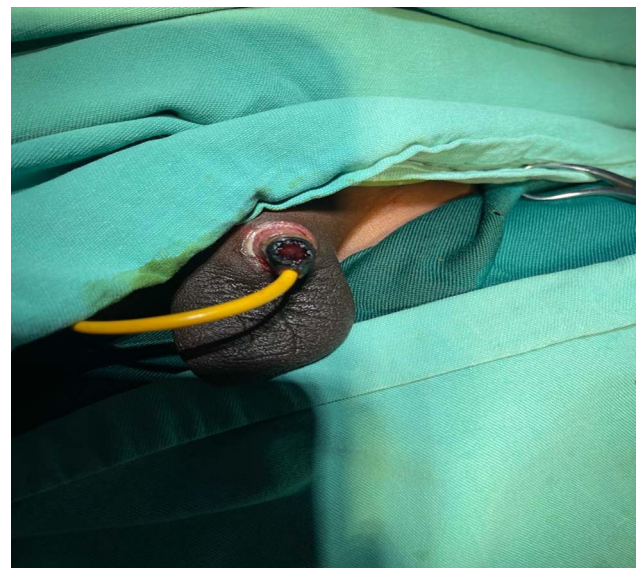


Figure 2. Insertion of catheter into the urethra.

3 months. We followed up for 6 months to ensure good healing of the wound and a normal urine stream.

Discussion

Circumcision, which is frequently carried out for religious, cultural, and medical reasons, is also a procedure with several medical advantages^[6]. However, it is widely accepted that circumcision protects against urinary tract infections in children, sexually transmitted diseases, balanitis-baloposthitis, and cervical and penile cancer in adults^[7].

In general, its complications are mild and manageable^[8]. Their incidence and severity rise when procedures are carried out by untrained professionals, or when unsterile conditions and inadequate equipment are present. Children over the age of one seem to be more susceptible to complications after circumcision



Figure 1. Necrotic penile glans.

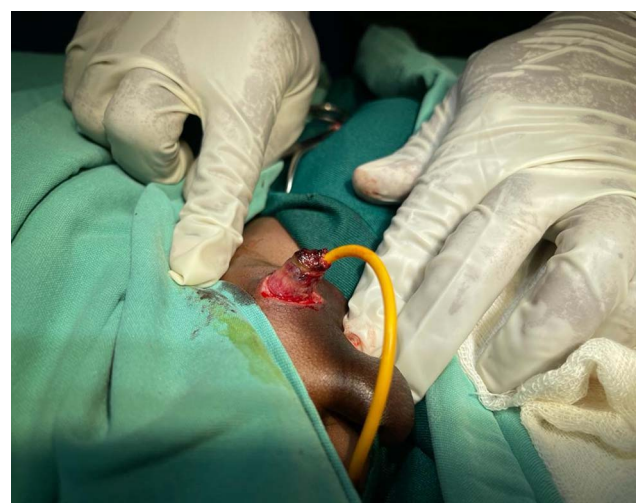


Figure 3. Debridement of the necrotic tissue.

than newborns and infants^[8].

According to Weiss *et al.*, the average incidence of complications following circumcision was documented in children of every age. In a systematic review, it was 1.5%^[7,9]. These include intraoperative hemorrhage, wound infection, meatitis, penile edema, burns, incomplete circumcision, postoperative adhesions, glans necrosis, iatrogenic hypospadias, and urethral lesions. Glans or penis amputation is a rarely mentioned complication^[10].

To avoid the potential complications that can occur when circumcision is performed by untrained hands, operators must carry out the procedure properly^[7].

The prepuce has to be entirely free of all adhesions to the glans, including the corona, before moving further with the resection of the prepuce using any of the following methods: The prepuce should only be retracted when the complete corona can be seen before starting prepuce or circumcision resection. The 'guillotine technique' is an easy, quick, and usually bloodless procedure with a good appearance^[7].

The main risk of this procedure is the possibility of clamping the preputium with the glans, which can lead to glans laceration, amputation, phrenular short cutting, or even a urethral fistula^[11].

Penile amputation injuries, whether partial or total, are uncommon and usually result from psychotic self-harm. Although it does not happen often, multiple treatment choices have been described in the literature^[11]. Chang *et al.* describe the three surgical options for managing penile amputation: primary re-anastomosis, delayed phallic substitution, and closure of the remaining penile stump^[12,13]. The Gomco clamp, Mogen clamp, and Plastibell are the three most frequently utilized procedures in the new-born nursery setting. The Mogen clamp is a surgical tool for quick circumcision, and because of its unique design, it is said to have fewer risks of glans injury^[14]. Although the Plastibell circumcision device has produced excellent results, improper use could result in complications^[15].

Conclusion

The patient claimed that after having his penis cauterized, the glans and the entire organ developed necrosis and discoloration one day later. Unfortunately, the entire organ perished along with the skin that covered it. However, neonatal circumcision providers should feel confident in performing the surgery as well as identifying and referring patients for quick management of any complications.

Ethical approval

Based on the regulations of the review board of the Mogadishu Somali Turkish Training and Research Hospital, institutional review board approval is not required for case reports.

Consent for publication

Written informed consent was obtained from the patient's brother for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Sources of funding

We declare that we have not received any financial support.

Author contribution

O.A.S. and S.S.M.: idea of the research, writing of the manuscript, final revision of the data, and intellectual content related to pediatric surgery; A.S.: idea of the research, review of data, and writing the paper.

Conflicts of interest disclosure

No conflicts of interest in this work.

Guarantor

Omar Adam Sheikh as corresponding author, I confirmed that the manuscript has been read and approved by all named authors.

Data availability statement

N/A.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Acknowledgements

The authors would like to thank all the participants and Mogadishu Somali Turkey Education and Research Hospital for their valuable contributions to the study, also the authors would thank Professor Dr Ayşenur Celayir, MD for all contributions, corrections, and critical reviews.

References

- [1] Salle JL, Jesus LE, Lorenzo AJ, *et al.* Glans amputation during routine neonatal circumcision: mechanism of injury and strategy for prevention. *J Ped Urol* 2013;9:763–8.
- [2] Patial T, Sharma G, Raina P. Traumatic penile amputation: a case report. *BMC Urol* 2017;17:1–4.
- [3] Djordjevic ML, Bizic M, Stojanovic B, *et al.* Outcomes and special techniques for treatment of penile amputation injury. *Injury* 2019;50:S131–6.
- [4] Elmaraghi S, Chen TJ, Heckman JE, *et al.* Functional penile replantation after traumatic avulsion amputation below the pubis: a case report. *Microsurgery* 2020;40:70–3.
- [5] Agha RA, Franchi T, Sohrabi C, *et al.* The SCARE 2020 guideline: updating consensus surgical CASeReport (SCARE) guidelines. *Int J Surg* 2020;84:226–30.
- [6] Salle JLP, Jesus LE, Lorenzo AJ, *et al.* Glans amputation during routine neonatal circumcision: mechanism of injury and strategy for prevention. *J Pediatr Urol* 2012;9:1–6.
- [7] Satyagraha P, IA FM, Seputra KP. Case series: iatrogenic penile amputation due to circumcision. *Brawijaya J Urol* 2020;1;3.
- [8] Petrella F, Ammar S, El-Sherbiny M, *et al.* Total glans amputation after neonatal circumcision. *Urol Case Rep* 2021;37:101624.
- [9] Weiss H, Larke N, Halperin D, *et al.* Complications of circumcision in male neonates, infant and children : systematic review. *BMC Urol* 2010;10:2.
- [10] Tambo FF. Les accidents de la circoncision à Yaoundé, Cameroun: à propos de cinq observations cliniques. *Progrès en urologie* 2012;22:63–6.

- [11] Raheem OA, Mirheydar HS, Patel ND, *et al.* Surgical management of traumatic penile amputation: a case report and review of the world literature. *Sex Med* 2015;3:49–53.
- [12] Furr J, Culkin D. Injury to the male external genitalia: a comprehensive review. *Int Urol Nephrol* 2017;49:553–61.
- [13] Chang AJ, Brandes SB. Advances in diagnosis and management of genital injuries. *Urol Clin N Am* 2013;40:427–38.
- [14] Ubaid Ullah SA, Samee MU, Islam SU, *et al.* Plastibell circumcision: a minor surgical procedure of major importance. Abdul samad, Tariq Wahab Khanzada, Basant Kumar. *J Pediatr Urol* 6;2010: 28–31
- [15] Samad A, Khanzada TW, Kumar B. Plastibell circumcision: a minor surgical procedure of major importance. *J Pediatr Urol* 2010;6: 28–31.