

Glans Amputation Following Non-Medical Circumcision: A Case Report from a Refugee Camp Clinic

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Abstract

Introduction: Traditional male circumcision is a deeply rooted cultural practice in Sudan and across Africa, but when performed by untrained providers in resource-limited settings, it is associated with a high risk of serious complications. Catastrophic outcomes such as glans amputation, urethral obstruction, and sepsis, though rare, remain documented threats to infant health.

Case Presentation: We report a 6-month-old male infant from a refugee camp in Sudan who presented with a 3-day history of irritability and complete inability to void urine. One week earlier, he had undergone a traditional circumcision by a local healer during which he sustained complete glans amputation with profuse bleeding. On arrival, the child was febrile, irritable, and mildly dehydrated, with suprapubic distension and a healing penile stump. Improvised urethral catheterization with a nasogastric tube drained 200 mL of turbid urine and relieved retention. Empirical antibiotics were initiated, and the infant was referred for definitive urological care.

Discussion: This case reflects patterns reported in regional studies, where complication rates are markedly higher in traditional circumcisions compared to medicalized procedures. Evidence from Sudan and Chad highlights outcomes ranging from bleeding and infection to partial or complete penile amputations. In our case, delayed presentation and lack of equipment compounded the severity, yet improvisation proved life-saving.

Conclusion: This case highlights the severe risks of traditional circumcision in infants, especially in refugee settings. Early recognition, timely referral, and treatment are vital to prevent life-threatening complications. Culturally sensitive community education about circumcision services are urgently needed to improve child safety.

Keywords: Traditional Circumcision; Glans Amputation; Urinary Retention; Refugee Health; Pediatric Urology; Low-Resource Settings

1. Introduction

Male circumcision is nearly universal in many communities in Sudan, where it spans religious, cultural, and social domains and is often undertaken outside clinical facilities by traditional practitioners. (1) Evidence-informed guidance from the World Health Organization (WHO) underscores the need to medicalize circumcision services, strengthen

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provider training, and ensure safe equipment even when procedures occur outside hospitals. (2) While circumcision performed with standardized technique in medical settings has a low complication rate, traditional male circumcision (TMC) conducted in resource-limited environments is consistently associated with substantially higher risks, including hemorrhage, infection, urethral injury, and catastrophic penile trauma. These risks are magnified in humanitarian contexts such as refugee camps where sterile supplies, trained providers, and referral pathways are constrained. (3)

Data from Sudan illustrate the sharp contrast in outcomes between medically organized programs and ad-hoc traditional practices. In a large Sudan-based series of 5,871 boys (ages 7 days–17 years) circumcised during a supervised campaign using thermocautery and local anesthesia by a urologist and trained personnel, early complications were rare, no patient required surgical hemostasis; only three had mild bleeding managed with cauterization and there were no urethral injuries reported. (4) These findings emphasize that, when performed by skilled teams with appropriate devices and sterile technique, circumcision can be delivered safely outside tertiary hospitals.

By contrast, hospital-based case series capturing referrals after traditional or paramedical circumcisions show a heavy burden of severe morbidity. Over three years at N'Djamena Mother & Child Hospital (Chad) which is a setting epidemiologically and programmatically comparable to neighboring Sudan 31 boys (mean age 7.5 years) presented with complications: urethrocutaneous fistula 32%, meatal stenosis 26%, bleeding 16%, infection 16%, glans amputation 6.5%, and complete penile amputation 3.5%. (5) Authors attributed the most devastating injuries to untrained operators and poor asepsis, advocating urgent medicalization and community education.

Catastrophic glans injury is a rare but well-documented outcome of unsafe circumcision techniques especially “guillotine-like” or cautery-assisted cuts performed without reliable glans protection. (6) Case reports describe total glans amputation in neonates and children after ritual procedures by lay providers; timely microsurgical replantation (ideally within several hours) offers the best chance of anatomical and functional recovery, though late presentation and suboptimal initial care often preclude salvage. (7) Programmatic surveillance from eastern and southern Africa’s medical male circumcision platforms has also cataloged glans injuries, reinforcing that strong protocols, technique selection, and supervision are critical to prevention. (8)

Hemorrhage remains the most frequent immediate complication across settings; although it is often controllable with direct pressure, significant bleeding in infants can rapidly become life-threatening because of small circulating blood volumes and limited physiologic reserve. Inadequate recognition, delayed referral, and absence of resuscitation capacity, which is common in displaced-population settings compound these risks. (3,9)

Against this backdrop, we report a case from a Sudanese refugee camp: a 6-month-old boy underwent traditional circumcision by a healer and sustained complete glans amputation with profuse bleeding, controlled initially only by compression one week prior to presentation. The case highlights the intersection of cultural practice, health-system fragility, and pediatric vulnerability, and it underscores the urgent need for culturally sensitive but medically safe circumcision services in humanitarian settings encompassing community engagement, provider training, sterile equipment, standardized technique with glans protection, and rapid referral pathways for complications.

2. Case Presentation

2.1. Patient Information

The patient was a 6-month-old male infant, the first child of non-consanguineous parents. He was born at term via spontaneous vaginal delivery at a health center, with no perinatal or neonatal complications. The pregnancy was uneventful, with regular antenatal follow-up. There was no personal or family history of chronic illnesses, bleeding disorders, or congenital anomalies.

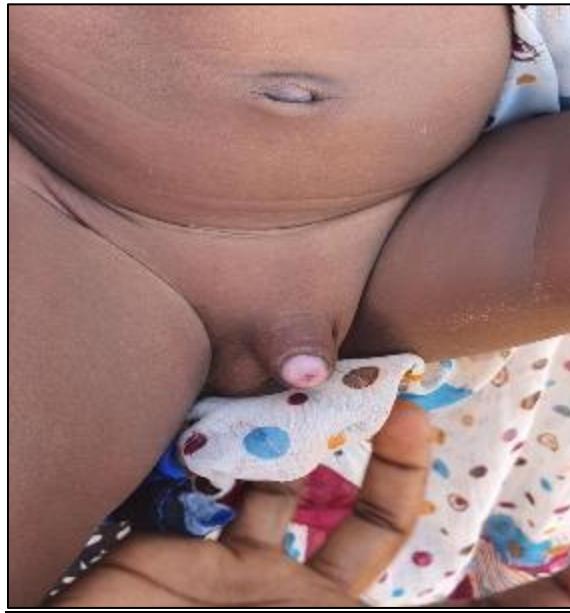
2.2. Clinical Findings and Diagnostic Assessment

The infant was brought to the refugee clinic with a 3-day history of irritability and complete inability to void urine. One week prior, he had undergone a traditional circumcision performed by a local healer, during which he sustained complete amputation of the glans penis accompanied by profuse bleeding. The bleeding was controlled with compression, but the family out of shame and fear did not seek medical attention.

On examination, the infant appeared sick-looking, irritable, and in obvious pain. His vital signs revealed a temperature of 38.8 °C, a pulse rate of 134 beats per minute, and a respiratory rate of 24 breaths per minute. He had slightly pale

conjunctiva, non-icteric sclera, and evidence of mild dehydration with dry lips and buccal mucosa. Chest and cardiovascular examinations were unremarkable. Abdominal examination revealed a tender, palpable suprapubic mass with active bowel sounds. Genitourinary examination demonstrated complete absence of the glans penis, replaced by a healing scar at the level of the urethral meatus (image 1). Turbid urine was noted to ooze from the meatus, and both testes were normally palpable. There was no costovertebral angle tenderness, and the musculoskeletal system showed no edema.

Based on these findings, the working assessment was traumatic glans amputation following traditional circumcision, complicated by acute urinary retention secondary to urethral obstruction, and associated urinary tract infection.



Figures 1 & 2 Amputated penis catheterized using makeshift urinary catheter

2.3. Management

In the absence of pediatric Foley catheters, a pediatric nasogastric tube (NGT) was improvised for urethral catheterization. This immediately relieved the retention, draining 200 mL of turbid urine. The child was started empirically on oral antibiotics and referred to a regional hospital for urological management.

At the referral facility, he was switched to intravenous ceftriaxone for 3 days, followed by oral cephalexin. A pediatric Foley catheter was subsequently inserted and maintained for several weeks. Supportive care included hydration, analgesia, and close monitoring. There were several challenges associated with providing care for this patient in humanitarian setting including the lack of appropriate pediatric Foley catheters necessitated improvisation with an

NGT. Another issue was the fear and stigma prevented the family from seeking immediate medical attention, complicating the clinical course.

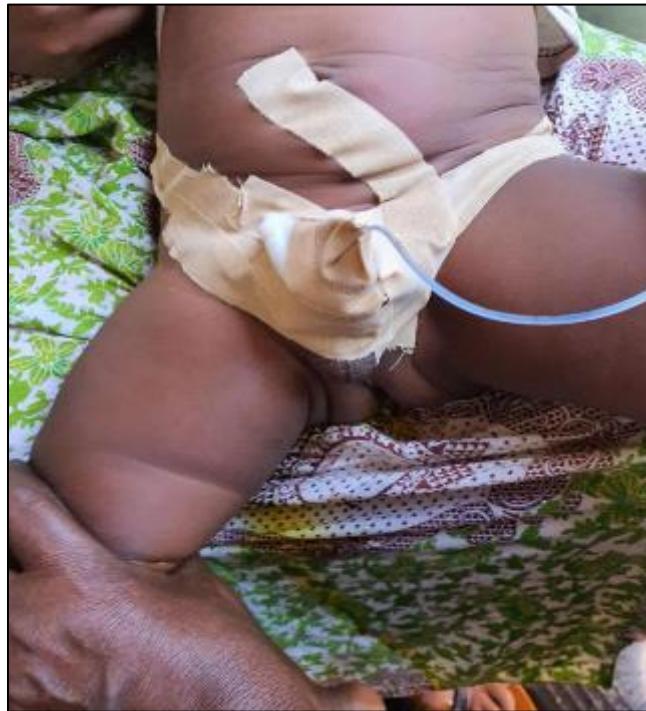


Figure 3 Amputated penis catheterized using makeshift urinary catheter.

3. Discussion

This case illustrates the devastating complications that can arise from traditional circumcision practices in refugee and resource-limited settings. The complete traumatic amputation of the glans penis, subsequent urethral obstruction, acute urinary retention, and urosepsis reflect both the immediate and delayed risks of non-sterile and unsupervised circumcision procedures.

The complication profile observed in this case aligns with prior reports from the region. In one of the earliest systematic descriptions, Abu-Bakr et al. documented that circumcision and infibulation practices in Sudan were frequently carried out by traditional healers under unhygienic conditions, predisposing infants and children to hemorrhage, sepsis, and severe genital trauma. (10) More recent data continue to demonstrate these risks. For example, Kalkan (2013) evaluated 5,871 boys undergoing collective circumcision in Sudan and found that, when performed under controlled conditions by trained personnel using thermocautery, complication rates were negligible, with no reported cases of urethral injury or glans loss. (11) By contrast, Mahamat (2016), in a three-year retrospective study from Chad, reported severe complications among 31 boys referred after circumcision performed mainly by traditional or paramedical practitioners: urethrocutaneous fistula (32%), meatal stenosis (26%), bleeding (16%), infection (16%), glans amputation (6.5%), and complete penile amputation (3.5%).(5) These findings underscore the stark difference between outcomes of medicalized versus traditional circumcision practices in similar socio-cultural settings.

The current case closely mirrors the catastrophic spectrum described in Mahamat's series, particularly with regard to glans amputation and subsequent urethral obstruction. Unlike the hospital cohort where emergency surgical interventions were available, our patient presented in a refugee clinic with no pediatric urological equipment, necessitating improvised catheterization using a nasogastric tube. This adaptation proved life-saving, echoing other reports that highlight the importance of innovation and improvisation in resource-limited humanitarian settings.(6)

Furthermore, the **delay in presentation** attributable to shame and fear compounded the risk of secondary infection and urinary tract sepsis. Similar delays have been reported across the region, where cultural stigma and reliance on traditional healers often discourage families from seeking timely hospital-based care. (12) This factor emphasizes the need for community education that balances cultural respect with medical safety.

From a broader public health perspective, WHO and UNAIDS emphasize that male circumcision, when performed under sterile conditions by trained providers, is generally safe and carries additional benefits for HIV prevention (1,2). However, they also caution that traditional circumcision practices remain a major cause of preventable morbidity and mortality, particularly among neonates and infants (3). The current case reinforces these concerns, showing how unsafe circumcision in fragile humanitarian contexts can lead not only to immediate hemorrhagic shock but also to long-term urological morbidity, including urethral stricture, recurrent urinary tract infections, and potential fertility issues in later life.

Comparatively, while Kalkan's Sudanese cohort demonstrated near-zero complications when circumcisions were medicalized, our case demonstrates the opposite end of the spectrum: severe morbidity resulting from traditional practice in a displaced population. Together, these data suggest that the critical determinant of outcomes is who performs the circumcision and under what conditions, rather than circumcision itself.

This case therefore contributes to the growing body of literature advocating for safe circumcision programs in humanitarian settings, including training providers, provision of sterile equipment, supervision of large-scale collective circumcisions, and referral networks for complications. (6) In humanitarian and refugee settings, these strategies are even more urgent, as children in these environments face compounded vulnerabilities.

4. Conclusion

Traditional circumcision in unsupervised, resource-limited environments poses serious risks to infant health, as demonstrated by this case of traumatic glans amputation complicated by urinary retention and urosepsis. Timely intervention with improvised catheterization was critical in averting life-threatening consequences. This case underscores the urgent need for culturally sensitive community education, safer circumcision practices, and improved access to pediatric surgical and urological care in refugee and humanitarian settings. Preventing such complications requires both strengthened health systems and engagement with local cultural practices to ensure that circumcision is performed safely.

Compliance with ethical standards

Disclosure of conflict of interest

Authors have no conflict of interest to declare.

Statement of informed consent

As per international standard for minors, the written consent of patient's mother was collected and preserved by the authors.

Authors' contributions

Author 1 managed the patient, led the clinical team, and coordinated the report. Author 2 conducted the literature review and drafted portions of the manuscript. Author 3 drafted sections of the manuscript, and managed patient follow-up. Authors 4 and 5 critically reviewed and revised the manuscript. All authors have read and approved the final version.

References

- [1] World Health Organization. Traditional male circumcision among young people: a public health perspective in the context of HIV prevention. Geneva: WHO; 2009. Available from https://iris.who.int/bitstream/handle/10665/44247/9789241598910_eng.pdf
- [2] World Health Organization/UNAIDS. Male circumcision: global trends and determinants of prevalence, safety and acceptability. Geneva: WHO; 2007. Available from https://www.unaids.org/sites/default/files/media_asset/jc1360_male_circumcision_en_2.pdf
- [3] Weiss HA, Larke N, Halperin D, Schenker I. Complications of circumcision in male neonates, infants and children: a systematic review. *BMC Urology*. 2010;10:2. doi:10.1186/1471-2490-10-2

- [4] Arslan D, Kalkan M, Yazgan H, Ünüvar U, Şahin C. Collective circumcision performed in Sudan: evaluation in terms of early complications and alternative practice. *Urology*. 2013;81(4):864-867. doi:10.1016/j.urology.2012.11.070.
- [5] Mahamat MA, Ngueringem O, Jalloh M, Nour M, Valantin V, Sylvain O, Niang L, Gueye SM. Complications of Circumcision: A Three-Year Experience in N'Djamena Mother & Child Hospital (Chad). *Open Journal of Urology*. 2016;6:55-62. doi:10.4236/oju.2016.64011.
- [6] Soltani S, Mottaghi M, Jafarpisheh A, Tavakkoli M. Penile Glans Amputation following Circumcision: A Case Report of a Rare Complication. *Case Rep Urol*. 2020;2020:5806987. Published 2020 Oct 2. doi:10.1155/2020/5806987.
- [7] Petrella F, Amar S, El-Sherbiny M, Capolicchio JP. Total glans amputation after neonatal circumcision. *Urol Case Rep*. 2021;37:101624. Published 2021 Mar 4. doi:10.1016/j.eucr.2021.101624
- [8] Lucas, T.J., Toledo, C., Davis, S.M. et al. Case series of glans injuries during voluntary medical male circumcision for HIV prevention — eastern and southern Africa, 2015–2018. *BMC Urol* 20, 45 (2020). <https://doi.org/10.1186/s12894-020-00613-6>
- [9] Stanford Medicine. Complications of Circumcision (professional education). Accessed August 4, 2025. <https://med.stanford.edu/newborns/professional-education/circumcision/complications.html>
- [10] Gerharz EW, Haarmann C. The first cut is the deepest? Medicolegal aspects of male circumcision. *BJU Int*. 2000;86(3):332-338. doi:10.1046/j.1464-410x.2000.00103.x
- [11] Kalkan M. Collective circumcision performed in Sudan: Evaluation in terms of early complications and alternative practice. *Urology*. 2013;81(4):864-867. doi:10.1016/j.urology.2012.11.070
- [12] Marck J. Aspects of male circumcision in sub-equatorial African culture history. *Health Transit Rev*. 1997;7 Suppl:337-360.