

Neglected Ring Circumcision Complication; Case Report for 20 Years Old Male Attended at Muhimbili National Hospital; Dar Es Salaam

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1. Abstract

Penile circumcision is a commonly practiced surgical procedure across different parts of the world. Many health practitioners perform the procedure but a lot of gaps exist on indications and choices of appliances, as well as follow up and counselling following surgery.

We received a twenty year old boy with history of ring circumcision when at age of ten years and lost follow up, seen ten years later with partially amputated glans penis and Urethral Cutaneous Fistula (UCF).

We managed him successfully with reconstructive surgery in which urethroplasty and glanuloplasty were done and followed up to three months post-surgery; wound successfully healed and he was able to pass urine per urethra normally without evidence of urethrocutaneous fistula or chordee with intact glans sensation and erections.

We recommend the implementation of the Standard Operating Procedures (SOPS), improvement of communication and counselling to avoid unnecessary and serious complications associated with circumcision.

2. Introduction

Circumcision is one of the oldest surgical procedures and one of the most commonly performed surgical procedures in practice today and commonly done in neonatal age and incidence of appears to be rising in developed world [1]. Circumcision indications include religious, cultural, social and medical [2]. It may be beneficial in reducing urinary tract infection, phimosis, balanitis, sexually transmitted infection and genital cancer [3]. Contraindications

of this procedure include congenital abnormalities of the phallus such as hypospadias, epispadias, megalourethra, webbed penis and any other condition in which prior circumcision renders treatment more difficult [4].

Circumcision's complications might present early or delayed; bleeding and infection are the most frequent early complications which are generally easy to control, delayed complications include excessive foreskin, shortage of penile skin, skin bridges, fistula, buried penis, meatal stenosis and glans injuries. Penile glans amputation is rare but it is a urologic emergency and needs prompt intervention [5].

Most of the complications of circumcision are usually minor and benign. However, there are reports about rare major complications with considerable morbidity, in which the treatment is challenging. In this case report, we have reviewed a twenty years old boy with history of ring circumcision and lost follow up for ten years and finally presented to our facility with partial glans amputation and urethral cutaneous fistula.

3. Case Review

Twenty years old boy from Coast region, Bagamoyo district, completed a secondary education, sixth born out of seven in the family; He presented with a history of glans penile injury and abnormal passage of urine following a planned circumcision. He noticed penile injury at the glans following a ring circumcision that was done when he was ten years old, He lost follow up and after five years he noticed abnormal colour changes of the glans associated with pain and peeling off of the skin. He noted urine leakage through the abnormal urethral opening ventrally, followed by complete stream and no urine through the urethral meatus thereafter. He has no

history lower urinary tract symptoms (LUTS) On examination he was clinically stable with normal systemic examinations, On genital urinary system was found with partially transected glans penis, urethral meatus at normal position penis wide opening with a completely transected urethra at the level of corona, very thin tis-

sue suspending the glans dorsally, both corpora carvenosa bodies transected more than 50% with suspending tissues remaining. He had normal sensation of the glans penis Dense fibrotic scars on the corpora bodies with patent distal and proximal urethral opening accommodating 16Fr catheter (Figure 1, 2).



Figures 1



Figures 2

Figure 1 and 2: Partial glans amputation and UCF

4. Procedure Details

After evaluation he was planned for reconstructive surgery and patient was informed on outcome of surgery. Intraoperatively was found with a normal penile length, skin of the shaft was normal but partially amputated glans penis ventrally, urethral meatus normal at the tip of the penis widely open, completely transected urethra at the level of coronal, very thin tissue suspending the glans on

the dorsum, both corpora carvenosa bodies transected at the tips (cones), patent urethra stoma distally and proximally with fibrotic scars.

Under general anaesthesia, a circumferential incision was made at the distal end of the penis, skin degloving was performed then fibrotic tissues excised (Figure 3, 4). The urethral meatus was dissected to free end of the urethra and was stented with a silicon 16-Fr Foley Catheter followed by urethroplasty and glanuloplasty.



Figure 3 and 4: Operative steps

4.1. Two to four weeks after urethroplasty and granulo-plasty

The urethral catheter in situ, no pericatheter leak, well granulated wound at the ventral aspect of the penis, healthy flap at the dorsal part of penis and intact glans sensation (Figure 5, 6).

Then the patient was followed up to four weeks; urethral catheter was removed and was able to pass urine per urethra, no evidence of urethrocutaneous fistula (UCF) at this stage and wounds were well granulating (Figure 7, 8).

4.2. Follow up after 6 and 8 weeks post-surgery

Reported good urine stream, no evidence of urethrocutaneous fistula, has erections with intact sensation on glans penis and wound has completely healed (Figure 9-12).

4.3. Follow up three months post-surgery

Passing urine normally, normal penile sensation and has erections, no evidence of chordee or UCF (Figure 13, 14).



Figure 5, 6, 7& 8: Two to four weeks post urethroplasty and glanuloplasty



Figure 9, 10, 11 & 12: Wounds completely healed after 8 weeks follow up



Figure 13&14: no evidence of chordee and UCF

5. Discussions

We have reviewed a case of 20 years old boy post ring circumcision with a rare complication; he has lost follow up and presented to our facility with partially amputated glans penis and urethrocutaneous fistula ten years post-surgery at a district hospital in Coast region.

In our setting and other parts of the world circumcision is the most-practiced procedure and it has been noted that it is performed not only by urologists, pediatric surgeons, general surgeons, family

physicians, pediatricians, and gynecologists but also by non-qualified people, barbers, technicians and others.

The reported reasons for circumcision mainly includes religious beliefs, medical conditions or as a routine cultural behavior and is the commonest operation performed on young boys. There is a strong evidence that male circumcision protects against several diseases, including urinary tract infections, syphilis, chancroid and invasive penile cancer as well as HIV and it has been reported that there are several factors directly associated with complications

such as age at circumcision, training and expertise of the provider, the sterility of the conditions under which the procedure is undertaken [6].

The complications following circumcision are mostly minor and treatable without major morbidity when reported earlier to appropriate facility and personnel. However, severe complications were seen when the procedure is undertaken by inexperienced health providers and had poor outcome when delayed [7].

The long period of a non-separated ring is associated with an increased risk of proximal migration leading to skin necrosis, strangulation and penile amputations [8]. Proximal migration of the Plastibell ring can result from use of an inappropriate size, resulting to serious penile injury. Adequate information should be provided to mothers or caretaker of circumcised babies about possible complications of the Plastibell kit when employed [9].

We found a similar approach with nearly similar case of 9-year-old boy post of circumcision at the age of one year with Plastibell clamp; He lost follow up and had penile amputation due to neglected Plastibell string. Unlike our case the immediate reconstructive surgery was not possible due to extensive injury and patient was managed conservatively [3]. Depending on the severity of injury and associated injuries, some cases with superficial injuries can be treated with topical antibiotics and later on reconstructive surgery similarly to our case as described [10].

Non adherence to such a follow up protocol contributed to the morbidity to our patient as described earlier that he had urethrocutaneous fistula (UCF) and partial glans amputation. UCF is a rare complication, but has been reported after both Plastibell and Gomco circumcisions [11]. UCF following circumcision was commonly seen in under 15 years of age, the reasons reported includes infection as a leading, others reasons are large amount of ischemic tissue from excessive diathermy or hemostatic sutures, could be present as a common root cause by cutting, crushing, or suturing, usually in the region of the frenulum where the urethra is closest to the skin [12].

For partially amputated glans penile and with delayed presentation, the possible option includes primary granuloplasty and urethroplasty with or without substitution urethroplasty [13]. In cases with complete glans amputation following circumcision it was recommended to delay surgery and neo-glans reconstruction using buccal mucosa graft has shown good results on long term follow up [14]. Also patients who were successfully treated with a urethral flap granuloplasty had shown acceptable cosmetic results with low stenotic rate as well as good results on quality of life, sexual and urinary function on long term follow up [15].

There are few literatures for the management of a delayed presentation of partially amputated and neglected glans penis following circumcision as in our case in which he took ten years to report to the health facility and then to tertiary level, the approach depends on degree of penile injury and urethral involvement. Our approach

was primary reconstruction of penile gland and urethroplasty followed by urethral catheterization for one month then followed up to eight weeks. He had shown a great recovery with adequate tissue coverage, intact neurovascular bundles and no evidence of urethrocutaneous fistula noted.

6. Conclusion

Penile glans amputation is a rare complication of circumcision and severe complications occurs in rare circumstances; nevertheless, glans reconstruction remains a major surgical challenge. Both minor and major complications are reported outcomes, delays in diagnosis and interventions, major complications can result to poor quality of life and sexual function.

The health care providers must conduct regular inspections following circumcision to ensure quality of service is improved and adverse events are early noted and are avoided.

We recommend the implementation of the Standard Operating Procedures (SOPS), improvement of communication and implementation of the law against the practice of non-professional individuals to avoid unnecessary and serious complications associated with circumcision.

References

1. Krill AJ, Palmer LS, Palmer JS. Complications of circumcision. *ScientificWorldJournal*. 2011; 11: 2458-68.
2. Weiss H, Polonsky J. Male circumcision: global trends and determinants of. 2007.
3. Hosseini J, Haghani S, Narimani N. Glandular amputation by strangulating tied suture: A case report of late-onset complication in the Plastibell circumcision technique. *BMC Pediatr*. 2019; 19(1): 4-6.
4. Abdulwahab-Ahmed A, Mungadi IA. Techniques of male circumcision. *J Surg Tech Case Rep*. 2013; 5(1): 1-7.
5. Soltani S, Mottaghi M, Jafaripisheh A, Tavakkoli M. Penile Glans Amputation following Circumcision: A Case Report of a Rare Complication. *Case Rep Urol*. 2020; 2020: 1-3.
6. Manentsa M, Mukudu H, Koloane N, Ringane A, Matta E, Martinson NA, et al. Complications of high volume circumcision: Glans amputation in adolescents; A case report. *BMC Urol*. 2019; 19(1): 1-4.
7. Appiah K, Amoah G, Azorliade R, Gyasi-Sarpong K, Aboah K, Arthur D, et al. Glanuloplasty with Oral Mucosa Graft following Total Glans Penis Amputation. *Case Rep Urol*. 2014; 2014: 1-5.
8. Ahmad AM, Ahmed SE, Mostafa NA, Nafisah TI. Proximal migration of Plastibell circumcision: two case reports and review of the literature. *Ann Pediatr Surg [Internet]*. 2022; 18(1): 0-3.
9. Weiss HA, Larke N, Halperin D, Schenker I. Complications of circumcision in male neonates, infants and children: A systematic review. *BMC Urol*. 2010; 10.
10. Smith AW, Hebra A, Mansfield JM, Streck CJ. Management of Plastibell circumcision ring migration and glans penis incarceration. *J*

- Pediatr Surg Case Reports. 2013; 1(7): 186-8.
11. Bode CO, Ikhisemogie S, Ademuyiwa AO. Penile injuries from proximal migration of the Plastibell circumcision ring. *J Pediatr Urol*. 2010; 6(1): 23-7.
 12. Lucas T, Hines JZ, Samuelson J, Hargreave T, Davis SM, Fellows I, et al. Urethrocuteaneous fistulas after voluntary medical male circumcision for HIV prevention—15 African Countries, 2015–2019. *BMC Urol* [Internet]. 2021; 21(1): 1-10.
 13. Appiah K, Amoah G, Azorliade R, Gyasi-Sarpong K, Aboah K, Arthur D, et al. Glanuloplasty with Oral Mucosa Graft following Total Glans Penis Amputation. *Case Rep Urol*. 2014; 2014: 1-5.
 14. Giovanni A, Wahyudi I, Rodjani A. Neo-glans reconstruction after glans amputation during circumcision using autologous buccal mucosal graft. *Urol Case Reports* [Internet]. 2018; 18(71): 11-3.
 15. Suarez-Ibarrola R, Heinze A, Cruz-Nuricumbo E, Miernik A. Urethral flap glanuloplasty after partial penectomy for penile carcinoma: Evaluation of urinary, sexual and quality of life outcomes. *Urol Case Reports* [Internet]. 2019; 23(December 2018): 58-9.