

CASE REPORT OPEN ACCESS

Successful Penile Refashioning Plus Glans Reconstruction With a Buccal Mucosa Graft: A Case Report

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ABSTRACT

Poorly performed circumcisions can lead to severe complications, including penile injury and psychological distress. We present the case of a 9-year-old male who suffered from glans amputation following a poorly performed circumcision. The patient underwent successful penile refashioning and glans reconstruction with a buccal mucosa graft. Our case highlights the importance of proper surgical training and expertise in managing circumcision-related complications, and the potential benefits of reconstructive surgery in restoring normal anatomy and function. The case report contributes to literature on penile reconstruction following circumcision-related injuries.

1 | Introduction

Male circumcision is a common surgical procedure with well-established health benefits, including the reduction of urinary tract infections, sexually transmitted infections, and penile cancer [1]. However, poorly performed circumcisions can lead to severe complications, such as penile injury, infection, and psychological distress [2]. In this case report, we present the case of a 9-year-old male who suffered from penile injury following a poorly performed circumcision, resulting in glans amputation. The purpose of this case report is to describe the successful penile refashioning plus glans reconstruction with a buccal mucosa graft in this patient.

The reconstructive surgery was done by an experienced multidisciplinary team comprising a urologist, a medical officer, an anesthetist, and a nurse. The buccal mucosa graft was harvested from the patient's inner cheek and used to reconstruct the glans, resulting in a successful outcome. We believe that this

case highlights the importance of proper training and expertise in performing male circumcision and reconstructive surgery to prevent and manage complications. It also emphasizes the potential benefits of reconstructive surgery in restoring normal anatomy and function in patients who have suffered from penile injuries due to circumcision.

2 | Case History/Examination

2.1 | Patient Information

A 9-year-old male who presented with glans amputation (penile injury) following history of poor circumcision technique about 2 years ago, associated with a poor urine stream. No other complaints.

Client had no chronic illness, no food or drug allergies, and no known familial illnesses.

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3 | Clinical Findings

3.1 | Physical Examination

Child in good general condition, well hydrated, with no pallor.

3.2 | Local Examination

Penile stamp with scar tissue at the right lateral aspect (Figure 1).

4 | Differential Diagnosis, Investigations, and Treatment

4.1 | Diagnostic Assessment

A complete blood count was done which showed normal findings (normal leucocyte count, normal hemoglobin and normal platelet count).

4.2 | Therapeutic Intervention

A surgical intervention was done to reconstruct the glans and refashion the penis.

4.3 | Operation Procedure

Patient positioning: The patient was positioned in the supine position on the operating table, with appropriate padding to prevent pressure points and nerve injury.

Aseptic technique: A sterile surgical field was created using standard aseptic technique, including sterile draping, gloves, and instruments. All team members followed strict hand hygiene protocols.

Excision of scar and degloving of the penis: The scar tissue around the penile area was excised using sharp dissection, while taking care to preserve healthy tissue. The penis was degloved, carefully separating the skin from the underlying structures.

Identification of the urethra: The glans penis was not present, but the urethra was identified on the ventral aspect of the penis using anatomical landmarks and careful dissection.

Excision of scar around the penile stump: All scar tissue around the penile stump was excised to create a healthy tissue bed for graft placement.

Harvesting of buccal mucosa graft: A buccal mucosa graft was harvested using aseptic technique from the patient's oral cavity and hemostasis was achieved.

Securing the graft on the penile stump: The buccal mucosa graft was carefully sutured to the penile stump using absorbable sutures such as vicryl 5/0, taking care to ensure proper alignment and tension.



FIGURE 1 | Image illustrating the penile stamp after penile amputation.

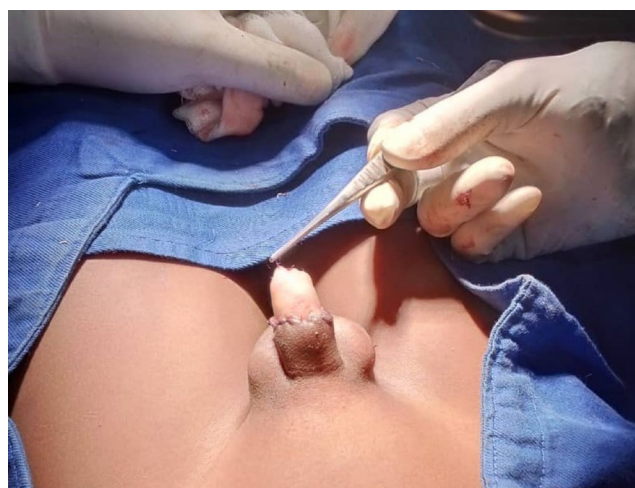


FIGURE 2 | Image showing penile refashion and reconstruction.

Securing the urethra with the graft: The urethra was secured to the graft using sutures, ensuring a watertight anastomosis and proper alignment.

Dressing and catheter placement: The reconstructed penis was dressed with sterile gauze and Tegaderm to protect the graft and promote healing. A urethral catheter was placed and left in situ for 10 days to allow for proper healing and urine drainage.

Postoperative care: The patient was closely monitored postoperatively for any signs of infection, bleeding, or other complications. Appropriate pain management and wound care were provided. Follow-up appointments were scheduled to monitor the progress of the reconstruction and assess functional outcomes (Figures 2 and 3).

4.4 | Outcomes and Follow-Up

Follow up of the patient showed great improvement with the restoration of good micturition habits.



FIGURE 3 | Image illustrating the dressing after the surgical procedure.

On consecutive reviews of the client, the reconstructed glans and graft were in a good healthy state and had continuously good mic-turition habits and sensitivity at the newly refashioned glans tip.

5 | Discussion

Male circumcision is the most common surgical procedure in Uganda done among neonates, infants and children for religious, cultural, and medical reasons [3]. Male circumcision is associated with serious complications including partial or total glandular amputation, urethral injury, glandular necrosis, and preputio-glandular fusion [4]. However, there is paucity of reports on these complications and their surgical solutions in our setting.

In this case study, we present a 9-year-old male who suffered from penile injury following a poorly performed circumcision, resulting in glans amputation. Glans injuries during circumci-sion often occur when the glans becomes trapped in the circum-cision clamp, which usually results in partial or total amputation of the glans penis [5]. This type of trauma is really uncommon, but may be due to the large number of circumcisions being done by unprofessional health workers.

Pippi Salle et al., suggested that the amputation may be due to incomplete release of the physiological balano-preputial adhe-sions around the frenulum, which would produce traction of the ventral aspect of the glans when the foreskin is pulled in order to secure the clamp [5, 6]. As such, they proposed that careful and complete release of the inner perpetual mucosa from the glans before the placement of the clamp may prevent glans amputa-tions during circumcision [5, 6].

The loss of the glans can lead to significant long-term psycho-logical and sexual morbidity [5]. In this case, we used the buccal mucosa graft for penile glans refashioning. Similarly, other case studies have reported use of buccal mucosa graft for penile glans refashioning [5, 7]. Penile glans refashioning with the buccal mucosa graft includes; harvesting the buccal mucosa graft from the inner cheek of the patient and carefully suturing it onto the penile glans in a manner that recreates the desired glans shape. This may involve multiple layers of sutures to ensure graft via-bility and proper glans contour.

Buccal mucosa is a preferred choice for grafting due to its biol-ogical properties [5]. It is a thin, pliable, and well-vascularized tis-sue, making it suitable for reconstructive purposes. Additionally, using a buccal mucosa graft can reduce the risk of complications such as graft contracture, which is often seen with other graft materials. Moreover, buccal mucosa grafts often result in good cosmetic outcomes, with the recreated glans resembling a nat-ural appearance, and they preserve or restore urinary function and penile sensation [5, 7].

6 | Conclusion

In this case study, we described a surgical approach for penis reconstruction using aseptic technique and a buccal mucosa graft. Proper patient positioning, meticulous aseptic technique, excision of scar tissue, careful graft placement, and postopera-tive care are essential for successful outcomes. Further studies and long-term follow-up are needed to evaluate the functional and cosmetic outcomes of this approach in penis reconstruction surgery.

Author Contributions

Erisa Christopher Gombya: conceptualization, investigation, meth-odology, project administration, resources, supervision, writing – orig-inal draft, writing – review and editing. **Alleluyah Kemigisa:** data curation, validation, writing – original draft, writing – review and editing. **Racheal Kirabo:** data curation, validation, writing – original draft, writing – review and editing. **Ritah Nantale:** data curation, val-idation, writing – original draft, writing – review and editing. **David Mukunya:** methodology, writing – original draft, writing – review and editing. **Job Kuteesa:** conceptualization, investigation, methodology, project administration, supervision, writing – original draft, writing – review and editing.

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Ethics Statement

The article describes a case report. Therefore, no additional permission from our Ethics Committee was required.

Consent

Written informed consent was obtained from the patient's mother for publication of this case report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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