

CURRENT TRENDS IN MEDICAL AND CLINICAL CASE REPORTS



Dorsal Urethrocutaneous Fistula Resulting From Circumcision: Report of a Rare Anomaly

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Article Information

Article Type:	Case Report	*Corresponding Author:	Citation:
Journal Type:	Open Access	Chukwubuike Kevin Emeka,	Emeka CK (2021). Dorsal Urethrocutaneous Fistula Resulting From Circumcision: Report of a Rare Anomaly. Current Trends Med Clin Case Rep, 2(3);1-3
Volume:	Issue: 2	Department of Surgery, Enugu State University Teaching Hospital, Nigeria,	
Manuscript ID:	CTMCCR-2-1117	E-mail: chukwubuikeonline@yahoo.com	
Publisher:	Science World Publishing		

Received Date: 04 April 2021

Accepted Date: 22 April 2021

Published Date: 28 April 2021

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ABSTRACT

Circumcision is a frequently performed procedure in neonates and is often performed by poorly trained health workers in low income countries, with the attendant high post procedural complications. We report a rare entity, dorsal urethrocutaneous fistula, resulting from a circumcision performed by a nurse in a maternity home.

Keywords: Dorsal urethrocutaneous fistula; Circumcision; Buried penis; Surgical

INTRODUCTION

Circumcision is the surgical removal of the prepuce (foreskin of the penis) in a male [1]. Globally, circumcision is one of the oldest and most common surgical procedures performed [2]. There more circumcisions performed in developing countries than in developed countries: One report from Nigeria documented a circumcision rate of 87% while developed countries report an average circumcision rate of 25% to 33.3% [3]. Several researchers have reported urethrocutaneous fistula as the most common complication of circumcision [4, 5]. Redundant prepuce, penile amputation, buried penis, skin loss and glans amputation are other known complications of circumcision. Most urethrocutaneous fistulas occur ventrally because the urethra is located ventrally. We report a rare entity, dorsal urethrocutaneous fistula, resulting from a circumcision performed by a nurse in a maternity home.

CASE PRESENTATION

A 3-year old male child presented to the pediatric surgery outpatient clinic with a history of passage of urine from the dorsal aspect of the penis few days following circumcision. The circumcision was performed by a nurse when the child was 7 days of age. The circumcision site was said to have been infected and was treated by daily dressing using methylated spirit. It was noticed that urine was coming from the dorsal aspect of the penis on the 10th day post circumcision. The parents stayed long before presenting to the hospital because they were reassured that the leakage of urine from the dorsal part of the penis will stop, since some urine still came out from external the urethral meatus. There was no swelling of the penis but the child strains while passing urine. He occasionally cries while passing urine. For the above problems, the patient presented to a peripheral hospital and was subsequently referred to our centre for expert care. On examination, he was afebrile, not pale, not dehydrated, not edematous. Pulse rate was 92 beats per minute, moderate volume and regular, re-

spiratory rate was 24 cycles per minute, blood pressure was 90/50 mmHg. The child had a circumcised penis. The penis was slightly swollen especially around the coronal sulcus. However, the glans penis looked conical with a non-patent external urethral meatus. The scrotum was well developed with both testes intra-scrotal. There was a peri-coronal and distal penile hyperpigmentation with the urinary fistulous opening in the dorsal distal penile position. There was on fistula in the ventral aspect of the penis (Figure 1 and Figure 2). As at the time of presentation, all the urine comes from the fistulous opening located at the dorsal aspect of the penis with no urine coming from the external urethral meatus located at the tip of the glans penis.



Figure 1: Dorsal urethrocutaneous fistula



Figure 2: Showing no fistula on the ventral aspect

Following clinical evaluation, a diagnosis of post circumcision dorsal urethrocutaneous fistula was made. The parents were counseled and necessary preparations made for surgery. At surgery, the external urethral meatus was opened up using artery forceps and a size 8 urethral catheter passed into the bladder. Degloving of

the penis was done and an intra-operative finding of a fistulous tract between the urethra ventrally and the opening on the dorsal part of the penis. This fistulous communication lies between the 2 corpora cavernosa. The fistulous tract was excised and the opening in the urethra closed transversely. A size 8 urethral catheter was left in situ as a stent and for urinary diversion. The urethral catheter was removed on the 9th day and the rest of the post-operative course was essentially uneventful. He was discharged on the 10th day postop and is currently being followed up in the clinic. He has good urinary stream with no leakage of urine from the fistulous tract (Figure 3)

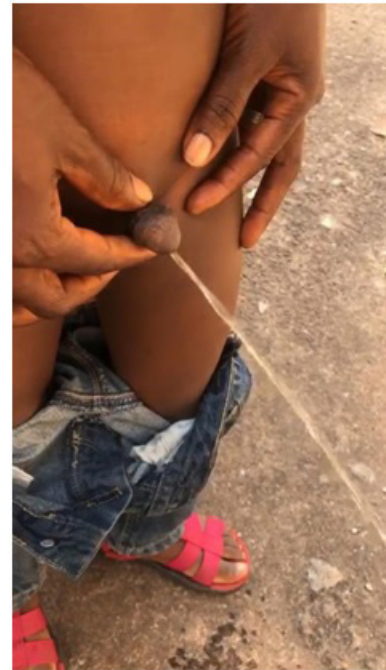


Figure 3: Good urinary stream at 30th day post-op.

DISCUSSION

Historically, the oldest documented evidence of circumcision dates back to 2345-2181 BC in tomb artworks in Egypt [6]. Male mummies in Egypt were found to be circumcised [7]. The book of Jeremiah, written in the 6th century BC, listed Egyptians, Edomites, Ammonites and Moabites as circumcising nations [6]. Circumcision, a cultural and religious practice, has well documented risks and benefits [8]. The removal of the prepuce to expose the glans penis (circumcision) has been performed for more than 5000 years [9]. It is one of the oldest and most controversial surgical procedures performed globally [10].

Circumcision is one of the most commonly performed procedures in Africa and about one third of the world male population is circumcised [11]. In Judaism, circumcision is considered a commandment from God and is performed without anesthesia on the 8th day of life [12]. Worldwide, people continue to circumcise their sons for hygienic, cultural and religious reasons.

Urethrocutaneous fistula is an abnormal communication between

the epithelium of the urethra and epithelium of the penile skin. The most common location of the urethrocutaneous fistula is around the coronal sulcus on the ventral aspect of the penis. The frenular artery, which is a potential cause of bleeding during circumcision, is located around the coronal area. Efforts to secure homeostasis by clamping with artery forceps and suture ligation may lead to accidental damage of the urethra resulting in urethrocutaneous fistula. Urethrocutaneous fistula is the most common complication of circumcision and there are reports of increasing incidence of urethrocutaneous fistula [13]. Treatment of urethrocutaneous is associated with recurrence: A recurrence rate of 26% has been reported [13].

Dorsal urethrocutaneous fistula resulting from circumcision is a very rare clinical entity and only a few cases have been reported in the literature. The options of treatment of urethrocutaneous fistula include simple closure, purse string suturing, subcuticular continuous suturing and use of tunica vaginalis and scrotal dartos layer [14]. The principle of treatment of dorsal urethrocutaneous fistula involves degloving of the penis, proper closure of the fistula, reinforcement with a multilayer of well vascularized tissue and tension-free closure [15].

CONCLUSION

Although circumcision may appear simple and straight forward, it is fraught with complications, with urethrocutaneous fistula being one of the most common. We recommend the use of anesthesia during circumcision as the uncooperative nature of the patients have been shown to increase the incidence of complications following circumcision. Since most circumcisions are performed by untrained personnel, further training of such persons are required.

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