Case Report

Preputial Cyst in the Newborn: A Case Report from Africa

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Abstract

Cysts of the prepuce are rare, and documented reports from the English literature are mostly from Asia. Presentations in children are worrisome to the parents. We report a case of a preputial cyst occurring in a neonate who was brought to our facility due to parental anxiety. After a thorough clinical evaluation, a freehand circumcision technique was performed which allowed exposure of the full extent of the cyst, the external urethral meatus and the glans, thus ensuring complete excision and minimising the risk of injury to the adjoining structures. We postulate that preputial cysts are rare in Africa due to the universality of circumcision, which is one of the options of treatment. Preputial cysts are benign foreskin cystic lesions that can be effectively treated with circumcision. This is probably the first reported case of a benign epithelioid preputial cyst from Africa. The paucity of reported cases may be due to the universal practice of circumcision in most of Africa.

Keywords: Epidermoid cyst, freehand circumcision, median raphe cyst, preputial cyst

Introduction

Preputial cysts are rare entities, with less than 200 cases reported globally, with the bulk of literature on the subject originates from Asia. Japan accounts for more than two-third of documented Asian cases, while 13% and 3% of worldwide reports come from Europe and North America, respectively.[1,2] A search of English literature with Google Scholar did not reveal any report from either Africa or South America.

This is a case from Africa.

Case Report

We present a 2.8 kg male newborn who was delivered through emergency caesarean section at 40-week gestational age on account of poor progress during labour. The baby was referred to our facility from a district hospital at about 50 hours of life, with an abnormal penile lesion noted at birth. There had been no change in the size of the lesion since it was first noticed. Its effect on micturition could not be ascertained, as caregivers were extremely cautious not to tamper with it. Other aspects of the history were normal.

Clinical examination revealed a non-irritable, male neonate with a normal physical appearance and vital signs. Examination of the genitals revealed an uncircumcised phallus with a prepuce which was not easily retractable and a cystic lesion measuring 5 mm in its widest dimension at the preputial opening. The lesion was located at the tip of the ventral aspect of the prepuce arising from the median raphe. The scrotal sacs were well developed and the testes were palpable within [Figure 1].

Laboratory and abdominopelvic ultrasound findings to detect renal malfunction and anomaly were normal with no feature suggestive of urinary tract obstruction.

The patient was circumcised on the 3rd day of life using a freehand technique with dorsal penile block using 1% Xylocaine injection as an anaesthetic agent.

Histology of excised specimen revealed a cystic lesion that was lined by keratinising stratified squamous epithelium with

Received: 15-09-2021 **Revised:** 07-12-2021 **Accepted:** 31-12-2021 **Available Online:** 15-12-2022

Access this article online

Quick Response Code:

Website: www.afrjpaedsurg.org

DOI: 10.4103/ajps.ajps_142_21

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How to cite this article: Elebute OA, Komolafe MD, Akinjo AO, Alakaloko FM, Seyi-Olajide JO, Ladipo-Ajayi O, *et al*. Preputial cyst in the newborn: A case report from Africa. Afr J Paediatr Surg 2023;20:80-2.



Figure 1: Demonstrating the preputial cyst



Figure 2: Excised foreskin with preputial cyst

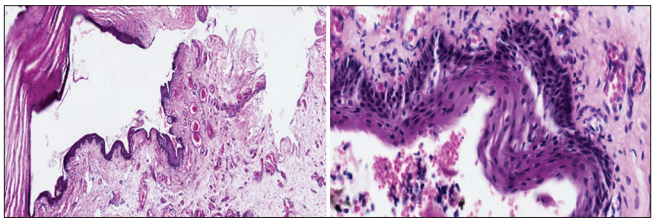


Figure 3: Photomicrographs of the sample shows a cystic cavity (A), lined by stratified squamous epithelium (H and E 100 and 400)

no atypia. The surrounding epidermis was partly acanthotic, while the dermis was oedematous and contained numerous congested blood vessels and muscle bundles.

Discussion

The prepuce is the part of the external genitalia that forms the loose anatomical skin covering of the glans penis and clitoris with its specialised and specific erogenous tissue in both males and females.[3] Embryologically, the male prepuce is formed by a midline confluence of ectodermal, neuroectodermal and mesenchymal multi-laminar structures composed of squamous mucosal epithelium, lamina propria (corion), dartos muscle, dermis and outer glabrous skin.[4]

Preputial cyst was first reported in 1895, where it was observed that the lesions had a predilection for the median raphe.[1] Lantin and Thompson[1] described it as rare benign congenital cysts of the penis in 1956.

These cysts are mostly solitary and they could present at any age. They rarely occur in children, and when they do, they are occur in newborns as congenital, asymptomatic lesions, located mostly along the median raphe and of epidermoid in origin [Figures 2 and 3].[5,6] Other additional presentations have been reported in older subjects, adolescence and adulthood and these include voiding, sexual and cosmetic dissatisfaction[6,7] which has been attributed to its location around the meatus, its disproportional large size, pain and discharge from secondary infections of the cyst.[6,7]

Preputial cysts are otherwise known as smegma cyst, or 'smegmoma', and are usually seen under the unretracted prepuce,[5] as noted in this index case. The pathologic origins of these cysts are poorly understood, which may be urethral, epidermoid, glandular and mixed.[2,6,7] Several plausible aetiologies have been postulated, and these include, sequestration of ectopic urethral mucosa during embryologic development, defective delamination of foreskin separation, occlusion and infection of parameatal ducts and effects of prostate-specific antigen have also been reported.[2,4,6,8,9]

Spontaneous resolution has been documented in a baby at about the 4th week of life who had presented shortly after birth with a history similar to the index case.[10] Options for treatment include complete excision, decapping, needle aspiration and marsupialisation, with a higher incidence of recurrence reported in the later.[2,6,10,11] Circumcision was the treatment of choice in our patient, as it is culturally acceptable and religiously practised. Furthermore, as circumcision entails the excision of the foreskin, it is equally deemed to be curative.[12] The universal practice of circumcision in this part of the world[13] may offer a plausible reason for its low incidence.

Although circumcision can be performed by many, we recommend that this procedure should be performed by a certified paediatric surgeon who is conversant with the freehand technique, as was the case with our patient.

The technique allows for proper exposure of the full extent of the cyst, as well as external meatal opening and the glans. Proper excision of the preputial cyst could be thus ensured while posing a minimal risk of injury to these adjoining areas.

The histology in the index case revealed a squamous epithelial lining, which falls under the epithelioid group, based on the classification by Shao *et al*.[8] Other notable classes include urethral type lined by pseudo-stratified columnar epithelium, glandular type lined by urethral epithelium and mixed type lined by more than one epithelium.[8] Syed *et al*.[7] proposed additional classifications which are ciliated epithelium characterised by ciliated epithelium and pigmented, lined by melanocytes containing melanin pigment in the epithelial lining. Other literature simply classified these cysts as stratified, columnar, cuboidal and transitional epitheliums.[14]

Conclusion

Preputial cysts are benign foreskin cystic lesions that can be effectively treated with circumcision. This may perhaps be the first reported case from Africa. The paucity of reported cases may be due to the universal practice of circumcision in most of Africa.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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