Severe penile fibrotic reaction secondary to a non-absorbable suture: a case report

J. Arredondo Montero, S. Hernández-Martín, L. Ayuso González, C. Bardají Pascual

Pediatric Surgery Department. Hospital Universitario de Navarra. Pamplona (Spain).

ABSTRACT

Introduction. Circumcision is one of the most frequent urological surgical procedures in the pediatric population globally. Complications, although rare, can be severe.

Clinical case. We present the case of a Senegalese 10-year-old male patient who had undergone ritual circumcision in his early childhood and developed a progressive circumferential tumor in the penile body with no further associated symptoms. Surgical exploration was carried out. A fibrotic-looking penile ring, which was interpreted as an injury secondary to the non-absorbable suturing material used in the previous surgery, was identified. The tissue involved was removed, and on-demand preputioplasty was conducted. Due to technical limitations, the resected tissue could not be analyzed, which means diagnosis could not be histopathologically confirmed. The patient had a favorable progression.

Conclusions. This case demonstrates that the medical personnel in charge of performing circumcisions should be adequately trained in order to prevent severe complications.

KEY WORDS: Phimosis; Circumcision; Male; Fibrosis.

REACCIÓN FIBRÓTICA PENEANA SEVERA SECUNDARIA A UNA SUTURA NO ABSORBIBLE: REPORTE DE UN CASO

RESUMEN

Introducción. La circuncisión es uno de los procedimientos quirúrgicos urológicos más frecuentemente realizados en la población pediátrica en todo el mundo. Las complicaciones, aunque infrecuentes, pueden ser graves.

Caso clínico. Presentamos el caso de un paciente varón senegalés de 10 años que fue sometido a una circuncisión ritual en la primera infancia y que desarrolló una tumoración circunferencial progresiva en el cuerpo del pene sin otra sintomatología asociada. Se realizó una exploración quirúrgica y se identificó un rodete peneano de aspecto fibrótico que se interpretó como lesión secundaria al material de sutura no absorbible utilizado en la cirugía anterior. Se realizó una exéresis del tejido afecto y una prepucioplastia a demanda. Por limitaciones técnicas, no se pudo analizar el tejido resecado y por tanto no se pudo confirmar histopatológicamente el diagnóstico. El paciente evolucionó favorablemente.

Conclusiones. Este caso pone de manifiesto la necesidad de formar adecuadamente al personal que realiza la circuncisión para evitar complicaciones severas.

PALABRAS CLAVE: Fimosis; Circuncisión, Varón; Fibrosis.

INTRODUCTION

Circumcision is one of the most frequent urological surgical procedures in the pediatric population globally[1,2]. Medical indication is typically the presence of phimosis causing balanitis or repeated urinary infections, as well as persistence after 7-8 years of age in spite of corticoid topical treatment[2]. However, ritual circumcisions are frequently carried out in pediatric patients. Religious and cultural neonatal circumcision is conducted in more than 85% of Nigerian and West African boys, mostly by nurses (56%), with a small proportion (9%) being performed by traditional doctors[3,4]. Circumcision is a relatively simple surgical procedure. However, multiple associated complications –such as bleeding, infections, glans and urethral injuries[5], coronal obliteration[6], and full excision of the whole penile skin– have been described.

CLINICAL CASE

We present the case of a Senegalese 10-year-old male patient treated in a charity surgical campaign carried out by our team in Velingara (Senegal) in 2018. The patient, who was otherwise healthy and had no significant clinical his-

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Corresponding author: Dr. Javier Arredondo Montero. Pediatric Surgery Department. Hospital Universitario de Navarra. Calle Irunlarrea, 3. 31008 Pamplona, Navarra (Spain)
E-mail address: javier.montero.arredondo@gmail.com

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Figure 1. Penile circumferential tumor at the subcoronal level. No further relevant abnormalities were identified.

tory, had undergone ritual circumcision in his early childhood. The reason for consultation was the presence of a hard circumferential subcoronal penile tumor that had been slowly and progressively growing for years. The patient had no pain, no voiding symptoms, and no associated alterations. Nevertheless, he was psychologically affected by the cosmetic result of his penis following circumcision. Physical exploration revealed a hard circumferential tumor at the subcoronal level (Fig. 1). Voiding stream assessment was carried out, with adequate caliber and normal voiding time. Under general anesthesia, urethral calibration was conducted. The urethra had no stenosis, and surgical exploration was decided upon. At exploration, a hard, fibrotic-looking penile ring covering the penile body without involving deep structures or infiltrating adjacent tissues was found (Fig. 2). Under urethral catheterization, the ring was fully resected, with multiple non-absorbable monofilament suture threads being observed inside (Fig. 3). The procedure was completed with on-demand preputioplasty (Fig. 4). The patient had a favorable progression and was

Figure 2. Intraoperative picture showing the whole Buck's fascia and the limits of the penile fibrous ring.

discharged uneventfully. No histopathological analysis was carried out as a result of the clinical context and the limited resources available at the time.

DISCUSSION

Ritual circumcisions in developing countries often have postoperative complication rates significantly higher than expected in this type of procedures. Two reviews of ritual circumcisions in Africa have reported complication rates of up to 35% and 48%, respectively[7,8]. These complications have a cross-factor origin, including the lack of adequate training by the personnel in charge of the procedure, the poor hygienic conditions, and the lack of adequate postoperative care.

To our knowledge, this is the first case with such characteristics reported in the literature. We believe the final diagnosis was penile circumferential fibrotic reaction secondary to the use of a non-absorbable suture thread in the context of a ritual circumcision. Our study has certain limitations, such as the absence of a pathological study of the surgical specimen, which would have confirmed the final diagnosis proposed. The injury was classified as a fibrotic or fibrotic-looking reaction based on intraoperative findings, which means this term is used from a clinical and not a histopathological point of view. Etiologies other than a foreign body could not be excluded in our patient as potential causes of this injury.

Abnormal scarring patterns are known to be more prevalent in the African population, with a greater trend towards keloid scars[9]. This seems to be related to the grater skin

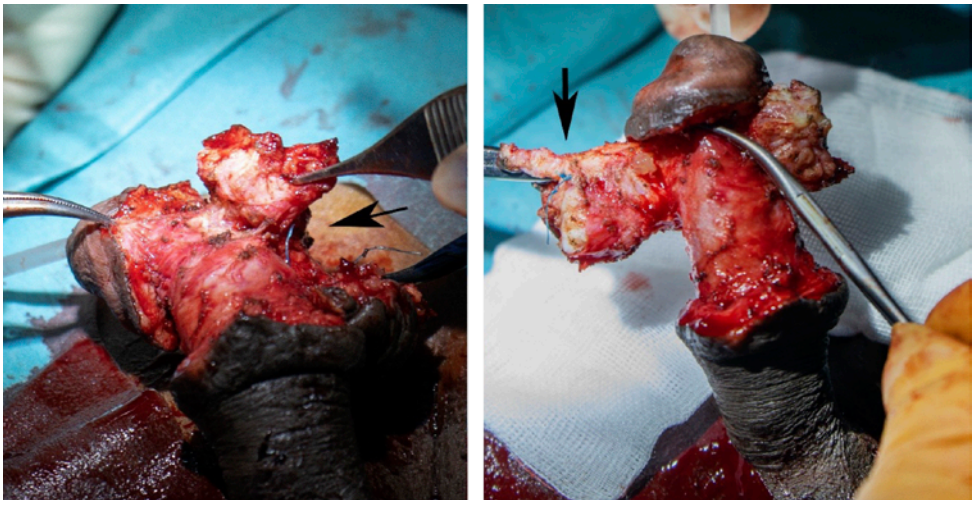

Figure 3. Open, fibrotic-looking ring. The suturing material of the previous circumcision can be easily identified (*arrow*).

Figure 4. Final postoperative result.

pigmentation of these patients[10], and it was considered as a potential cause in our patient. Penile keloids have been described in the literature[11], but in this case, we believe the problem should not be attributed to the patient's own scarring process, since there was an exogenous element justifying the persistence of the penile inflammatory-fibrotic reaction.

Finally, it should be highlighted that the management proposed in this patient resulted in a successful diagnosis and procedure. In patients with a similar clinical presentation and with a medical history of ritual or traditional circumcision, such diagnosis should be considered. This case demonstrates that the personnel in charge of conducting circumcisions should be adequately trained. The technique and the instruments used, preoperative asepsis and antisepsis, and the choice of the suturing material are key, and as such, the personnel in charge of performing circumcisions should be trained in an attempt to reduce complication rates in this type of environments.

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