Supernumary penile frenulum: a rare description in the literature
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ABSTRACT
The frenulum of prepuce of penis is an elastic band of tissue covered by mucosa, located in the ventral surface of the penis, this component is said to be supernumerary when there is more than one anatomical structure that performs the same function. On physical examination, two accessory frenulum were found, bilaterally, adhered to the penile glans. The penile adhesion can result in biological and behavioral problems, requiring the surgical removal of anomalous scaffolds.

Keywords: Supernumerary frenulum, anatomic variation, penis.

INTRODUCTION

The frenulum of prepuce of penis, or frenulum preputii (FP) is an elastic band of tissue covered by mucosa, located in the ventral surface of the penis, which aderes the foreskin (prepuce) to the glans. Its function, basically, lies in keeping the prepuce stabilized with regard to the mobility of this mucosa. [1] It is said to be supernumerary FP when there is more than one structure with the same morphology; therefore, these structures consist of briddles with fleshy aspect arranged in the regions adjacente to the ventral frenulum.

Prepucial development begins approximately in the twelfth intrauterine week; the foreskin and the glans merge initially, but as a rule they are separated to a greater or lesser degree before birth. [2] At birth, the penis, as well as a large part of the newborn's body, is premature; then, the development of balanopreputial adhesion, the resistance of the preputial orifice to retraction and the greater length of the foreskin are normal conditions and considered physiological. [3]

Genital abnormalities eligible for immediate evaluation by a specialist reach 1 in about 1000 to 4500 births. [4] The existence of supernumerary prepuce briddles constitutes an anatomical pattern of anomaly, if left untreated they can cause sexual, urinary and psychic damage in adulthood. Thus, we describe the clinical presentation of a patient with two supernumerary frenulum with its clinical anatomical characteristics; the peculiarities of the corrective surgical procedure, and we correlate them with the literature.

CASE REPORT

A 17-year-old white Brazilian male reported difficulty associated with pain and discomfort in attempting foreskin retraction for hygiene and masturbation purposes. He related no comorbidities, use of medications or previous surgeries. On physical examination, was observed a flacid penis measuring 6.0 cm in length and 9.0 cm in sub-coronal circumference, patent and topical urethral meatus. The prepuce covered the glans and was noticed the presence of two accessory frenulum arranged on the right and left sides (Figure 1) of the penile glans, each measuring 0.5 cm in thickness, arranged at 2.5 cm from the ventral frenulum, which is thinner and measures 0.2 cm in thickness.
The surgical approach was based on the performance of two frenuloplasties (right and left), followed by a section of the ventral frenulum and postectomy by circumcision with removal of the surgical piece. The procedure is detailed with the patient in the supine position, under intravenous sedation and anesthesia by infiltration of 2% xylocaine without vasoconstrictor at the base of the
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penis, in the main frenulum and in the two accessory penile frenulum. Approach through the identification, repair, ligation and section of each supernumerary frenulum, located on the right and left sides of the glans. Consecutively, after the section of the main frenulum, a circular incision was made in the foreskin about 1.0 cm below the coronal groove of the glans and the excision of the excess skin, the circumcision raffia was performed using simple 4/0 catgut. The patient evolved well, with satisfactory surgical healing, by primary intention, without complications and with excellent aesthetic and functional response (Figure 2).

DISCUSSION

The presence of penile abnormalities can lead to biological and behavioral problems: urinary tract infection and glans hypersensitivity, premature ejaculation, discomfort or pain during masturbation or intercourse. Such situations can trigger the reaction to avoid or delay the beginning of sexual activities. [5] Difficulties with foreskin retraction, pathological phimosis and balanitis, common in childhood, are risk factors for the development of penile cancer, a neoplasm with the potential to cause important physical, social and psychological effects to adult men. [6]

Penile adhesions and skin bridges may appear, secondarily, as complications of neonatal circumcision, the most common infant surgical procedure in the world. They result from the incomplete lysis of physiological adhesions or the procedure itself, which leads to the formation of two bare surfaces that adhere due to contact between them. [7] Frenulum problems in general are the second most common cause of seeking circumcision and affect 50% of patients with pain during intercourse. [8] Although it is very common in the main frenulum, there are few reports in the literature on the topic, with the short frenulum being the most frequent anomaly and frenuloplasty, with or without concomitant postectomy, a procedure considered simple, fast and effective for treatment, with a low rate of complications. [9]

Despite the provisions, the appearance of one or more supernumerary frenulum is a rare event, with few and old descriptions in the anatomical literature, usually linked to a single accessory frenulum. [1] Underestimated in their clinical importance, they may not be recognized in childhood, and their consequences are manifested by the greater interest and sexual activity experienced in adolescence, when the aesthetic and even the functional aspects stand out. In cases like this presented, the presence of two extra frenulum was a differential, not yet described, in the literature and that deserves to be noted. The treatment through frenuloplasties with repair, section and ligation of the accessory frenulum, completed by the treatment of the main frenulum and the resection of excess foreskin through circumcision postectomy, did not increase the surgical complexity and did not bring complications.

The supernumerary foreskin frenulum is a poorly described penile anomaly, usually unique. The presence of two frenulum, in spite of the greatest rarity, similar to other penile anomalies, if accompanied by symptoms that interfere with the patient's sexual well-being, clinically manifested through pain and difficulty in foreskin retraction. The solution through the frenulopathy followed by circumcision postectomy is the procedure of choice with few complications.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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None.

REFERENCES


**RESUMO**

*Frêñulos prepuciais supranumerários: uma rara descrição na literatura*

O frênulo prepucial é uma banda de tecido elástico recoberta por mucosa, localizada na região ventral do pênis, tal componente é dito supranumerário quando existir mais de uma estrutura anatômica que desempenhe a mesma função. Ao exame, foram constatados dois frênulos acessórios, bilateralmente, aderidos à glande peniana. A adesão peniana pode resultar em problemas biológicos e comportamentais, sendo estritamente necessária a remoção cirúrgica dos arcabouços anômalos.

**Palavras-chave:** Frênulo supranumerário, variação anatômica, pênis.