

## CASE REPORT

# Balanitis Xerotica Obliterans: A Case Report

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### ABSTRACT

Balanitis xerotica obliterans (BXO) is a variant of Lichen sclerosus (LS) of the glans and foreskin. It is characterized by whitish xerotic patches on the glans. This case report includes two such cases that we encountered in children with complaints of difficulty in micturition and dysuria. They were managed surgically by circumcision and meatoplasty. This article also highlights the importance of screening and awareness of BXO in clinical practice and the need to invest time in evaluating modalities like topical corticosteroids and alternate forms of management in BXO.

**Keywords:** Balanitis xerotica obliterans, Circumcision, Lichen sclerosus, Meatal stenosis.

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### INTRODUCTION

Balanitis xerotica obliterans (BXO), in 1928, came to light clinically after its first description by Stuhmer. It is considered an uncommon sequela to circumcision. It is described as a disease characterized by chronic and mild inflammation. The etiology is unclear. It usually affects the male genitals. The most common presenting features are the white xerotic appearance of glans and foreskin and dysuria. It is considered the male genital variant of Lichen sclerosus (LS).<sup>1</sup> If carefully examined and diagnosed, studies show that this condition is more common than we know.<sup>2</sup> BXO has been reported to affect 0.3/1,000 boys per year.<sup>3</sup> It is said to be one of the most common under-diagnosed conditions that can have serious long-term implications if not intervened early. The common symptoms are urinary retention, dysuria, and a whitish appearance of the glans and foreskin. Parents often notice that the foreskin is not retractable and is painful while trying to do so. BXO is also commonly being diagnosed in school-going children.

### CASE DESCRIPTIONS

#### Case Report 1

A 5-year-old child was brought to the outpatient department (OPD) with difficulty in micturition for 3 days and whitish discoloration of the tip of the penis for 2 months. On examination, prepuce looks whitish and xerotic. It was nonretractile (Fig. 1).

#### Case Report 2

A 10-year-old child was brought to the OPD with whitish discoloration of the tip of the penis for 2 months, difficulty in micturition for 2 weeks, and blood in the urine for 3 days. On examination, the prepuce appeared white, glans was xerotic, and phimosis was present (Fig. 2).

#### Management

Both cases were treated with circumcision and meatoplasty. Biopsy revealed hyperkeratosis and altered dermal histocytology with fibrosis and inflammatory infiltrations.

### DISCUSSION

LS is a type of severe dermatosis. It is chronic in nature. The lesions found are typically pruritic, inflammatory, and sclerotic. LS in boys is mostly found in the foreskin and glans. This is termed

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**Fig. 1:** A 5-year-old child with white, xerotic appearance of the prepuce and glans penis, retraction was difficult and painful

balanitis xerotica obliterans. Severe forms lead to phimosis and meatal stenosis.<sup>3</sup> Most children presented with an inability to retract the prepuce; many had discomfort after micturition and obstructive signs. Meatal involvement is very common and requires meatotomy during surgery.<sup>4</sup> Studies attribute the development of BXO lesions to altered fibroblast activity in the dermis, which leads to fibrosis and atrophy.<sup>5</sup> BXO seems likely to have a genetic component: in women, there has been an established association with autoimmune diseases (including autoimmune thyroiditis, alopecia areata, and vitiligo) but the



**Fig. 2:** A 10-year-old child with white, xerotic appearance of prepuce and glans penis with significant phimosis resulting in painful micturition

evidence for such an association in males appears weaker.<sup>6-8</sup> Secondary phimosis is found to be a common occurrence in BXO. According to recent studies, it occurred in 9% of 100 consecutive circumcisions for all, including religious, reasons, and 19% of 232 other circumcisions for the disease of the prepuce and penis.<sup>9</sup> The rate of malignant transformation to epithelial carcinoma is 3-8% according to a study by Charlton et al.<sup>10</sup>

### Newer Trends

Topical corticosteroid creams are said to be useful in preventing meatal stenosis following circumcison. It also helps in relieving voiding discomfort. Randomized control trials in the management of BXO are being conducted for topical steroid applications like mometasone furoate and clobetasol propionate. Preputioplasty surgeries are found to be equally effective as circumcison and associated with lesser postoperative bleeding but with higher recurrence. Buccal mucosal inlay grafts are said to treat meatal stenosis with a very low rate of recurrences.<sup>11</sup>

### CONCLUSION

BXO is more common than we know and is a potentially severe disease. It can have significant ramifications if left unnoticed. With

early diagnosis and management, the prognosis is good. There is further need for research to standardize treatment modalities and to better understand the etiology and natural course of the disease.

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