

Introduction

Balanitis xerotica obliterans (BXO), also known as lichen sclerosus of the penis is a dermatological (skin) condition affecting the male genitalia. The cause of BXO is unclear.

[Picture Credit: Balanitis Xerotica Obliterans]



Balanitis Xerotica Obliterans (BXO)

Balanitis Xerotica Obliterans (BXO) commonly occurs on the foreskin and glans penis. Atrophic white patches appear on the affected area, and commonly, a whitish ring of indurated (hardened) tissue usually forms near the tip that may prevent retraction of the foreskin.

Betancourth-Alvarenga, J.E., Vázquez Rueda, F., Siu Uribe, A., Escassi Gil, A., Vargas Cruz, V., Sánchez Sánchez, R., Ortega Salas, R. & Paredes Esteban, R.M. 2017.

AIM: Balanitis xerotica obliterans (BXO) is a disease of the skin and mucosa of male genitals of unknown etiology that may affect children of any age. It has a low incidence (9-19%) and in adults is considered a potential premalignant lesion. The aim of our study is to establish the incidence of BXO in our center and to determine its correlation between the clinical and immunohistochemical (IHC) findings.

METHODS: Prospective cohort including all children < 14 years with foreskin pathology that required a circumcision between 2014-2016. Statistical analysis of the clinical characteristics, histological and IHC findings searching for inflammatory response, premalignant lesions and microbiological findings.

RESULTS: A total of 176 boys with phimosis had circumcision with a mean age of 7 ± 3 years (Range 2-14). Presurgical diagnosis of BXO was suspected in 28.4% (n= 50) whereas the AP confirmed a total of 29.5% (n= 53) with a very good interobserver concordance ($\kappa= 0.81$; $p < 0.01$). Previous treatment with corticoids in BXO was found in 63.5% (n= 33/52). Meatal stenosis was found in 7.69% (n= 4/52) requiring meatal/urethral dilations. Patients with BXO had a T-Lymphocytes CD3+ mediated inflammatory response with a positive correlation between tumor suppressing protein (p53) expression and chronic inflammation.

CONCLUSIONS: BXO is a chronic inflammatory disease mediated by T-lymphocytes with an incidence greater than previously reported. Surgeons' criterion has a very good concordance with the AP findings. The elevation of p53 in children with BXO may indicate a plausible malignant potential that may require a surgical treatment (circumcision) and an adequate follow-up.

Calleja Aguayo, E., Hernández Calvarro, A.E. & Marhuenda Irastorza, C. 2015.

MATERIAL AND METHODS: This retrospective and descriptive analysis was carried out by review of the medical records of boys who underwent circumcision from April 2013 to April 2014. The study group consisted of boys that were circumcised due to persistent phimosis at 4 years of age, urinary symptoms or painful erection. The histopathological examination was performed only in patients with clinical suspicion of BXO.

RESULTS: 339 patients were circumcised. The mean age of surgery was 6.5 years (Median 5, Mode 4). BXO was confirmed in eleven boys (3.9%) out of 16 biopsies (5.7%), with a mean age of 8.2 years (6-12). Of all the biopsies that were analysed for clinical BXO, 9 had scarring phimosis (2 meatal stenosis), 2 had balanitis and 1 had acute urinary retention, 2 presented desquamative foreskin or glands, and 1 had recurrent phimosis. The histopathological examination revealed lichen sclerosus in 10 patients. Meatotomy was performed in 3 boys, one of them during the follow-up period. 10 patients with BXO were treated with topical corticosteroid cream after circumcision.

CONCLUSIONS: Our incidence is low compared to literature (10-40%) as we did not refer the foreskin routinely to histopathological analysis. The clinical suspicion underestimates the incidence of BXO up to 49%. The circumcision is curative in most cases with BXO. The BXO may produce meatostenosis and urethral abnormalities, and it is associated with a high incidence of penile carcinoma of the penis.

Incidence of Balanitis Xerotica Obliterans (BXO) in South Africa

The National Cancer Registry (2014) does not provide information regarding the incidence of Balanitis Xerotica Obliterans (BXO) because it is not a cancerous condition itself, however, if neglected it may develop into cancer of the penis.

Signs and Symptoms of Balanitis Xerotica Obliterans (BXO)

Early in its course, balanitis xerotica obliterans [BXO] is relatively asymptomatic with only mild visually observable changes of the penis and glans. Symptoms occurring with time and progression of BXO may include the following:

- Itching
- Burning sensation
- Reduced sense of touch and feeling of the glans penis
- Difficulty in passing urine
- Painful erection
- Decrease in urinary force
- Inflammation of the urethra (urethritis)
- Possible urethral discharge
- Inability to retract the foreskin (uncircumcised men)
- Inability to return a retracted foreskin back over the head of the penis (uncircumcised men)

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Causes of Balanitis Xerotica Obliterans (BXO)

The cause of this condition is not altogether known.

Complications of Balanitis Xerotica Obliterans (BXO)

Balanitis Xerotica obliterans (BXO) can result in stenosis (narrowing) and the obliteration of the external opening of the urethra. A significant number of patients with penile malignancy have a history of having had BXO.

Charlton, O.A. & Smith, S.D. 2018.

“Balanitis xerotica obliterans (BXO), or penile lichen sclerosus, is a progressive sclerosing inflammatory dermatosis of the glans penis and foreskin. It is associated with significant morbidity and may result in impaired urinary and sexual function. It was initially described by Stuhmer in 1928, named after its pathological features, and is considered the male equivalent of vulvar lichen sclerosus (LS). The etiology of BXO is uncertain; however, autoimmune disease, local trauma, and genetic and infective causes have been proposed. BXO occurs most commonly on the prepuce and glans penis. It is considered to have premalignant potential to transform into squamous neoplasia. This postulation rests on retrospective studies and parallels drawn with vulvar LS and squamous cell carcinoma (SCC) development. Histologically, BXO and vulvar LS are considered the same disease. There is a paucity of evidence-based guidelines to assist with appropriate follow-up for patients with BXO.”

Taneja, Y., Ram, P., Dhaked, S.K. & Sen, T.K. 2017.

“Penile carcinoma is considered a delayed sequel of lichen sclerosus. It is important to recognize this not so uncommon complication in time as survival of patients with Squamous Cell Carcinoma (SCC) depends on early diagnosis and treatment. We describe a case of a 49-year-old male presenting with urethral stricture due to lichen sclerosus. He was treated for stricture disease and later on developed SCC penis after ten years of presentation.”

Medical Treatment of Balanitis Xerotica Obliterans (BXO)

No consistently effective treatment has been developed for Balanitis Xerotica obliterans [BXO], however, the following therapies may have varying degrees of reported success.

Topical steroids in the management of mild BXO. Steroid-based creams are ineffective in persons with established scarring.

Surgical Treatment of Balanitis Xerotica Obliterans (BXO)

Surgical intervention may include:

- Circumcision (surgical removal of the foreskin)
- Dilating or surgically correcting meatal narrowing

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This Fact Sheet is intended to provide general information only and, as such, should not be considered as a substitute for advice, medically or otherwise, covering any specific situation. Users should seek appropriate advice before taking or refraining from taking any action in reliance on any information contained in this Fact Sheet. So far as permissible by law, the Cancer Association of South Africa (CANSA) does not accept any liability to any person (or his/her dependants/estate/heirs) relating to the use of any information contained in this Fact Sheet.

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OBJECTIVES: Balanitis xerotica obliterans (BXO) is a chronic inflammatory disease, a genital form of Lichen Sclerosus in males.

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