

MANAGEMENT OF RECURRENT URETHRAL STRICTURE DUE TO BALANITIS XEROTICA OBLITERANS: A CASE REPORT AND REVIEW OF THE LITERATURE

PRISE EN CHARGE D'UNE RÉCIDIVE DE STÉNOSE DE L'URÈTRE DÛ AU BALANITIS XEROTICA OBLITERANS : CAS CLINIQUE ET REVUE DE LA LITTÉRATURE

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SUMMARY :

Balanitis Xeroticans Obliterans (BXO) is a severe, chronic, dermatosis characterized by inflammatory, sclerosis and often urethral stricture. Such urethral stricture poses a problem of outcome of surgical repair often followed by recurrence. We report the case of a successful management of recurrent distal urethral stenosis associated with BXO by buccal mucosa graft followed by meatostomy and topical corticosteroid ointment.

Keywords : Balanitis Xeroticans Obliterans, Uréthroplasty, Buccal mucosa graft

RESUME:

Le lichen Balanitis Xeroticans Obliterans (BXO) est une affection dermatologique chronique sévère caractérisée par des lésions inflammatoires, scléreuses et souvent une sténose de l'urètre. Ce type de sténose de l'urètre pose le problème des résultats opératoires souvent émaillées de récurrence. Nous rapportons un cas de récurrence de sténose de l'urètre par BXO bien traitée par lambeau de muqueuse jugal suivi de méatostomie et d'application de corticoïdes.

Mots clés: Balanitis Xeroticans Obliterans, Uréthroplastie, lambeau de muqueuse jugale

INTRODUCTION

Lichen sclerosus (LS) is a severe, chronic, dermatosis characterized by inflammatory, sclerosis, pruritic lesions that causes significant morbidity in patients of all genders and ages. In men, the lesions typically affect the foreskin and glans causing a balanitis xerotica obliterans (BXO), leading to phimosis and potentially meatal stenosis [1]. BXO is a scarcely known disease, wrongly considered rare and the etiology of the condition is unknown at present [2]. However, autoimmune mechanism, local trauma, and genetic and infective causes have been proposed in the genesis of BXO [3]. Involvement of the foreskin causing phimosis should be treated with surgical circumcision, combined with topical steroids or immunomodulators. Which may reduce the incidence of recurrent stenosis of the meatus or anterior urethra. Involvement of the mucous membrane of the glans is most

often the cause of stenosis of the meatus. Patients with meatal stenosis may also require a urethroplasty or meatoplasty [4]. BXO involving anterior urethra can be treated by 2-stage urethroplasty or substitution urethroplasty. The complete excision of the stricture and flap urethroplasty seems to be better than a 2-stage procedure. However, at the present time, it is not clear whether surgery can completely resolve this chronic and progressive disease [2]. We report a case of recurrence of stenosis of the urethral meatus which had been treated by an oral mucosa graft.

CASE REPORT

Mr A.D is a 43 years old man was referred to our department for difficulty passing urine on November 2019. In his history, the patient reported difficulty passing urines with weak stream and dribbling that have been occurring since 2001. Physical examination confirmed the weak urinary stream and found lesions of balanitis Xerotica Obliterans (BXO) (Figure 1) with partially obliterated urethral meatus and scrotal vitiligo. Retrograde voiding cystogramme showed a 3 cm glandular urethral stricture (Figure 2). He underwent a urethral reconstruction using onlay buccal mucosa graft on January 2020. Post-operative course was normal and the patient had a normal voiding for six months before difficulty passing urine recurred. Physical examination findings at 6 months post-surgery remained the same. On December 2020 he underwent a second surgery with a 3 cm incision of the balanic raphe. Exploration found a meatus stenosis and a normal glandular urethra (Figure 3). It was decided to proceed to wide excision of fibrotic tissue followed by a meatostomy bringing the widely open normal urethra to the skin, then a 16 Fr Foley catheter was put in place (Figure 4). The foley catheter was removed at post-operative day 3 and the patient had a normal voiding. He was discharged with the plan to put corticosteroid ointment after wound healing. He was also referred to a dermatologist to manage the lesions of Vitiligo. At 4 months post-surgery, the patient had a good stream with a well opened urethral meatus (Figure 5).



Figure 1: Lesion of BXO and scrotal vitiligo



Figure 4: Per operative image of meatotomy in a patient with BXO

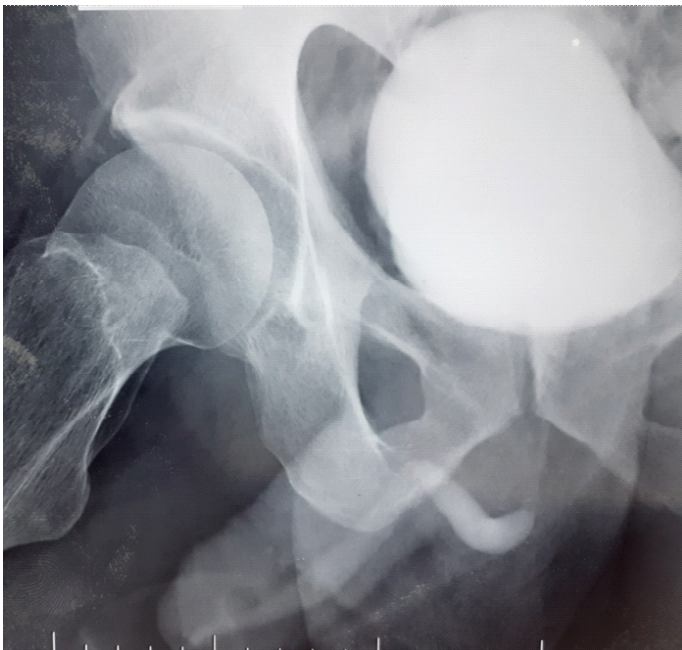


Figure 2: Retrograde Urethrocytogramme showing balanic urethral stricture



Figure 5: Six months Post-operative image of normal meatus in a patient with BXO



Figure 3: Per operative image of normal distal urethra and lesion of BXO

DISCUSSION

We report a case of BXO associated with distal urethral stricture. In our setting, due to cultural and religious considerations, circumcision is almost generalized explaining why most patients are referred at the stage of meatal and distal urethral stenosis. In men, LS has a peak of incidence between the ages of 30 to 50; however, incidences of LS have been described in people of all ages, from infants to the elderly [5].

In the authors' experience, LS usually begins as a meatal or peri meatal process in the circumcised patient, but it may involve other areas of the foreskin in the uncircumcised patient [8].

The exact etiology is unknown. However, growing evidence suggests autoimmune influences, a possible genetic predisposition, and inflammatory events leading to disease progression [6].

There are both medical and surgical options for lichen sclerosus of the penis. Asymptomatic balani-

tis xerotica obliterans does not require therapy. For symptomatic lichen sclerosus, topical steroids are the main treatment. Betamethasone and triamcinolone are common options and typically require twice a day dosing. The patient is monitored for a response, and the frequency of topical steroids can be reduced to every other day or every 3 days if a good response occurs after two months [7].

When the urethra is involved, cystourethroscopy can be performed to identify the location of the disease. Direct visualization is important to identify the severity of stricture disease related to lichen sclerosus and exclude other causes of the obstructive symptoms. Treatment of urethral stricture may involve dilation and direct visual internal urethrotomy, or in more advanced cases or previous treatment failure, urethroplasty may be warranted [8].

Glandular strictures are difficult to treat and are often associated with recurrence. The glans becomes inelastic shows significant scarring, especially in patients with BXO. Strictures involving the distal urethra and navicular fossa are particularly challenging because successful reconstruction requires the creation of a functional urethral conduit as well as maintaining a good cosmetic appearance of the glans.

Treatment of distal urethral strictures developed in the last decades range from dilatation, internal urethrotomy to definitive reconstruction techniques such as penile fasciocutaneous flap urethroplasty and buccal mucosa graft urethroplasty [9, 10].

Deepak Dubey et al. reported buccal mucosal urethroplasty for BXO related urethral strictures. They investigated 1-stage dorsal onlay and 2-stage buccal mucosal urethroplasty for strictures. Patients with a severely scarred urethral plate, focally dense segments or active infection underwent 2-stage urethroplasty [11].

Simsek related large series of buccal mucosal graft urethroplasties performed for anterior urethral strictures [12]. The overall success rate in the series was 100%, which included the repair of meatus in the process of BXO.

In most case meatotomy will not prevent the recurrence of meatal stenosis. Excision of the scleroatrophic tract and grafting of the glans base, coronal sulcus, and the end of the shaft give a complete relief of pain during erection and intercourse in circumcised patients with balanopreputial adhesions and restore the elasticity of the skin of penile shaft [13].

Our patient initially underwent an augmented distal urethra using a buccal mucosa graft and presented subsequently a meatus stenosis distal to a normal sized urethra indicating a good graft uptake.

We believe that in this case, because of the wide excision of the fibrosis and wide opening of the normal

urethra to the skin associated with corticosteroids ointment will increase the chance of good outcome. A longer follow up is however needed to better evaluate the role of corticosteroids in avoiding recurrence of meatus stenosis.

CONCLUSION

BXO is a common cause of urethral meatus and distal urethral stenosis. The treatment requires a good excision of fibrosis and ideally a repair using buccal mucosa graft to avoid the risk of recurrence.

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