

## **Lichen planus leading to panurethral stricture: A rare case report with review of literature.**

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**Abstract:** Lichen planus is a papulosquamous disorder of skin. Genital lichen planus is self limiting disease that resolves without any consequences. Although Lichen planus may coexist with lichen sclerosus et atrophicus, such association in genitalia is not reported so far. We report a case of a forty years old man, presented with a papulosquamous lesion over the prepuce four years back and then he subsequently developed phimosis. Lichen planus was diagnosed in histopathology report after circumcision. Two years later patient noticed white discoloration of the glans with stenosed meatus and was having lower urinary tract symptoms. Radiological evaluation of the patient suggested anterior urethral stricture. He was treated with buccal mucosal graft urethroplasty. Histopathological examination of tissue taken from urethral meatus revealed lichen sclerosus et atrophicus.

**Keywords:** Lichen planus, urethral stricture, urethroplasty, genitalia.

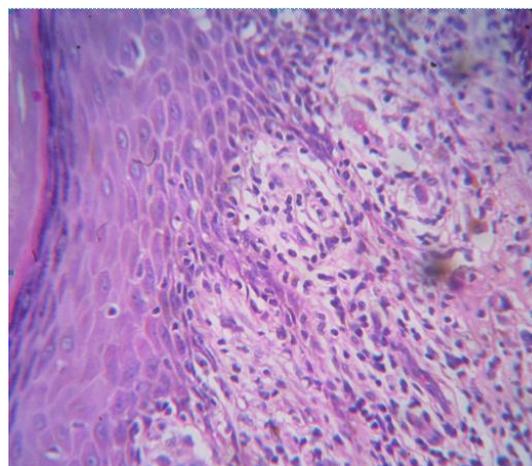
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### **INTRODUCTION**

Lichen planus (LP) is a papulosquamous disorder of skin. Genital LP involves either glans or prepuce. LP is self limiting disease and usually resolves within 8-12 months without any consequences [1]. Herein, we report a case of penile LP leading to urethral stricture.

### **CASE REPORT**

Two years ago a forty year old male patient presented with non retractile prepuce which he developed over past two years. He had no history voiding symptoms. Past history revealed that four years back, he noticed a papulosquamous lesion over the prepuce that resolved spontaneously in next 10-12 months. There is no history of specific drug intake. He also denied unprotected sexual encounter. There was also no history of any skin lesion in other parts of body. He is a non alcoholic and non smoker. On examination, prepuce was thickened, scarred and phimotic. Circumcision was performed. Biopsy of circumcised skin showed hyperkeratosis, acanthosis and hydropic degeneration of basal cell layer. There was a band of chronic inflammatory infiltrate in close approximation to the dermo-epidermal junction suggesting LP [Fig-1].



**Fig-1: Hyperkeratosis, acanthosis and hydropic degeneration of basal cell layers with a band of chronic inflammatory cell infiltration in the dermo-epidermal junction suggesting LP [H & E, 10x].**

Two years later he developed whitish patch over the glans and obstructive voiding Symptoms. On examination, glans was found to be white, xerotic and discolored. Urethral meatus was stenosed (Fig.-2)



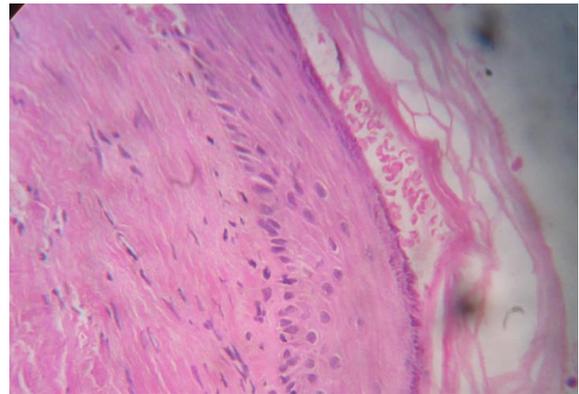
**Fig-2: White, xerotic glans with stenosed meatus.**

Laboratory investigations were within normal limits. Uroflowmetry showed box shaped curve with maximum flow rate 4 ml/s. Ultrasound of both the kidneys were normal. Bladder wall was thickened with significant post void residual urine. Retrograde urethrography suggested pan anterior urethral stricture [Fig-3].



**Fig-3: Retrograde urethrography showing pan anterior urethral stricture.**

Patient was treated with buccal mucosal graft urthroplasty. Tissue from urethral meatus was sent for histopathological examination which showed hyperkeratosis and acanthosis of stratified squamous epithelium with sub epithelial homogenization of collagen fibers and chronic inflammatory cells infiltration consistent with lichen sclerosus et atrophicus (LSA) [Fig-4].



**Fig-4: Hyperkeratosis and acanthosis of stratified squamous epithelium with subepithelial homogenization of collagen fibers and chronic inflammatory cells infiltration consistent with LSA [H & E, 10x].**

Patient is on regular follow up since last two years and without any stricture formation.

#### **DISCUSSION**

LP is a chronic inflammatory mucocutaneous disorder, first described by Erasmus Wilson in 1869 [2]. It may occur anywhere of the body but usually involves wrist, shin, back, genitalia, and scalp, oral and vaginal mucosa. Etiology is still not clear. It may be a manifestation of dysfunctional cell mediated immunity. All age group can be affected but usually seen between 20-50 years. High incidence of disease is seen in Indian subcontinent [3]. Female are affected more often and vulvovaginal involvement seen in half of them [4]. Male genital involvement is very rare. LSA is also a chronic inflammatory mucocutaneous disorder of genital and extra genital skin. Genital involvement is more common than LP. It is six to ten times more common in female. It is characterized by loss of architecture, pallor and hyperkeratosis. LSA frequently involves urethra and results in complicated urethral stricture disease in men [5]. Vulval LP with urethral stenosis described by Mishra et al in an eight year girl [6]. Urethral stricture in male with genital LP is still not been described. Although Connelly et.al. reported an association of LP with LSA in four cases, all were non genital LP [7]. However, co existence of genital LP and LSA is not reported so far. Our finding raises a concern that LP may herald LSA that may lead to urethral stricture. It is supported by the hypothesis proposed by Gougerot that both the diseases are related [8]. Lichen planus and lichen sclerosus are similar in histology; a band of lymphocytes at the dermo-epidermal junction can be seen in both. The atrophic lichen planus, bullous lichen planus, and bullous lichen sclerosus are the clinical variants showing overlap of the two diseases [7].

#### **CONCLUSION**

Genital LP should be evaluated for urethral stricture and patients should be informed about this

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complication and should be under close follow up. In our case we found LP involving glans and penis also associated with urethral stricture disease. This is the first case reported to the best of our knowledge.

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