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## Case report

# Podophyllin induced urethral stricture in a young Nigerian male



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### KEYWORDS

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### Abstract

Urethral stricture is an abnormal narrowing or loss of distensibility due to fibrosis in the peri-urethral tissues. Some substances can induce chemical urethritis severe enough to cause stricture. We present a case of long segment anterior urethral stricture in a young Nigerian patient cause by self-application of podophyllin for the treatment of genital warts.

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## Introduction

Urethral stricture is an abnormal narrowing or loss of distensibility due to fibrosis in the peri-urethral tissues. Common causes include gonococcal urethritis, urethral injury from instrumentation, catheterization, perineal or pelvic trauma. Some substances can induce chemical urethritis severe enough to cause urethral stricture. We present a case of long segment anterior stricture caused by podophyllin used to treat genital warts.

## Case report

A 25-year-old undergraduate presented with 6-h history of acute urinary retention. He had experienced progressive reduction in urinary stream, frequency and urgency for three weeks. Three months prior to presentation he had genital warts for which podophyllin was prescribed by a health worker at a peripheral clinic which the patient applied and also introduced into the urethra once daily for a week with associated burning sensation during periods of application. There was no antecedent history of urethritis, perineal trauma or urethral instrumentation. The patient is single, sexually active with multiple partners and drinks alcohol. Examination revealed distended bladder, hypopigmented scar on the glans and induration along the length of the penile urethra. His prostate was not enlarged. An assessment of acute urinary retention secondary to chemical induced urethral stricture was made. Retrograde urethrogram was not successful due to complete meatal occlusion. Antegrade

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**Figure 1** Micturating urethrogram showing stricture involving about  $\frac{3}{4}$  of the anterior urethra.



**Figure 2** Post-operative pericatheter urethrogram showing urethral catheter in situ with some extravasation at the proximal anastomotic site.

urethrogram revealed a long segment anterior stricture from the glans to penobulbar junction. Retroviral and hepatitis serologies were unreactive and he had a normal psychiatric evaluation. One month later he had substitution urethroplasty using a ventral longitudinal penile flap. He has been able to void with good stream but had two sessions of urethral calibration in the first six months. Two years after, patient continued to maintain satisfactory urine stream on follow-up via phone call (Figs. 1 and 2).

## Discussion

Urethral stricture is an abnormal narrowing or loss of distensibility due to fibrosis in the peri-urethral tissues. Common causes include gonococcal urethritis, urethral injury from instrumentation, catheterization, perineal or pelvic trauma. In the West African sub-region trauma is the leading cause of USD in Lagos, Nigeria while the etiology in Dakar, Senegal is mostly infectious [1,2]. In the developed world iatrogenic causes account for about half of cases of stricture treated with urethroplasty while urethral catheterization was found to be the main cause of pan-urethral anterior stricture disease which this patient had [3]. Genital warts are exophytic lesions caused by Human Papilloma Virus (HPV) commonly transmitted sexually among young adults. HPV, a DNA virus has many subtypes with types 6 and 11 causing most of genital warts [4]. The urethra is involved in up to 5% of penile condylomata acuminata with involvement limited to the distal 3 cm of the urethra, but may sometimes extend to the prostatic urethra [5,6]. Options of treatment of urethral warts include instillation of pharmacologic agents such

as podophyllin, 5-fluorouracil (5FU), imiquimod, trichloroacetic acid and interferon alpha 2b. Others are cryotherapy, photodynamic therapy and electrocautery. They work by destroying affected tissue by cytotoxic or a physically ablative mode of action. None of these is uniformly successful in the treatment of this disease [7]. Podophyllin resin is an antimitotic plant extract prepared as 15–25% solution in ethanol or tincture of benzoin which should be applied and washed off after four hours, the use of which is being discouraged [8]. The purified form (podofilox 0.5%), the modern pharmaceutical replacement is usually not washed off because it rarely causes systemic toxicity however, it has not been licensed for urethral instillation. Patient-applied therapy is presently being encouraged after initial assessment and has been found to be effective [9]. However, the safety of self application when the urethra is involved has not been extensively profiled. This patient self-applied podophyllin and developed long segment anterior urethral stricture. This could be as a result of non compliance with the application guideline. It could be that the podophyllin was of higher concentration thereby causing chemical urethritis and thermal injury that led to the stricture.

## Recommendations

1. Patient application of podophyllin should be reconsidered particularly in developing countries.
2. Preparations of podophyllin available in stores should be standardized to avoid local and systemic toxicities.
3. Administration of HPV vaccine to young males should be considered as it is being given to females for the prevention of cervical cancer.

## Conflict of interest

No conflict of interest.

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