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# Iatrogenic Hypospadias - Is this preventable?

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## ABSTRACT

**Background:** Iatrogenic hypospadias is an avertible deformation to the ventral part of male urethra caused by downward pressure of an indwelling urethral catheter. Whereas it is not a life-threatening complication, most patients with such condition find the penile appearance appalling. **Case Report:** An 86-year-old man who is being managed for bladder outlet obstruction secondary to benign prostate enlargement and he has been using urethral catheter for about a year. Clinical examination revealed stable vital signs except for elevated blood pressure (173/94mmHG) and catheterized penis with a cleft on the ventral part extending from the external urethral meatus to the subcoronal region. The blood work up was essentially normal except for mild thrombocytopenia. Pus culture yielded multidrug resistant staphylococcus aureus and urine culture grew mixed bacterial growth. He was treated with urinary antiseptics which resulted in improved clinical state and was discharged second day of admission for further care as outpatient. **Conclusion:** Iatrogenic hypospadias is a relatively uncommon complication of prolonged urethral catheterization that is preventable by appropriate choice of catheter size, securing urethral catheter the right way and suprapubic cystostomy when prolonged catheterization is inevitable.

**KEYWORDS:** Iatrogenic hypospadias, indwelling urethral catheter, complications.

## INTRODUCTION

Urethral catheterization is one of the simplest and commonest urological interventions rendered. Prolonged urethral catheterization may be indicated in patients with spinal cord injury, neurological or musculoskeletal dysfunctions impairing ambulation or bladder control and in elderly with urinary retention who are unfit for surgery. Some notable complications of long-term urethral catheterization are as follows: a. urinary tract infection including urethritis, cystitis, pyelonephritis, epididymitis, peri-urethral abscess, and transient bacteremia b. mechanical – bladder and peritoneal perforation, bladder spasms c. catheter-associated penile fracture d. urethral stricture e. paraphimosis f. cellular toxicity

from catheter g. urinary bladder malignancy h. catheter blockage due to concretions deposition over catheter lumen.[1]

## CASE REPORT

An 86-year-old African male being manged for bladder outlet obstruction secondary to benign prostate enlargement. Also, he is a known patient with dementia and seizure disorder who has been wheelchair-bound in the last one year. He presented with complaints of intermittent low-grade fever with no associated chills or rigor.

The vital signs at presentation were temperature – 36.2oC, respiratory rate – 24cycles/minute, Oxygen saturation at room air – 100%, pulse rate (PR) – 78beats/minute, and Blood pressure (BP) – 173/94mmHg (which necessitated medical team consult). External genitalia examination showed in situ size 20 silicon Foley's urethral catheter, eroded glans penis and subcoronal part of the distal penis with scanty non-foul-smelling purulent discharge. The scrotum is grossly normal. Fig. 1. A diagnosis of iatrogenic hypospadias in an elderly man with background multiple medical comorbidities was made.

Investigations revealed hemoglobin - 10.57g/dl, white blood cells – 6.44 x 103/µL, platelet count – 121.5 x 109/L, serum urea and creatinine were within normal limits. Pus culture grew multidrug resistant Staphylococcus aureus and urine culture isolated mixed bacterial growth. He was treated with oral nitrofurantoin. The urethral catheter was not changed as it was just changed four days before presentation. By the second day of admission, he has been stabilized and was discharged home for further urologic care as outpatient.

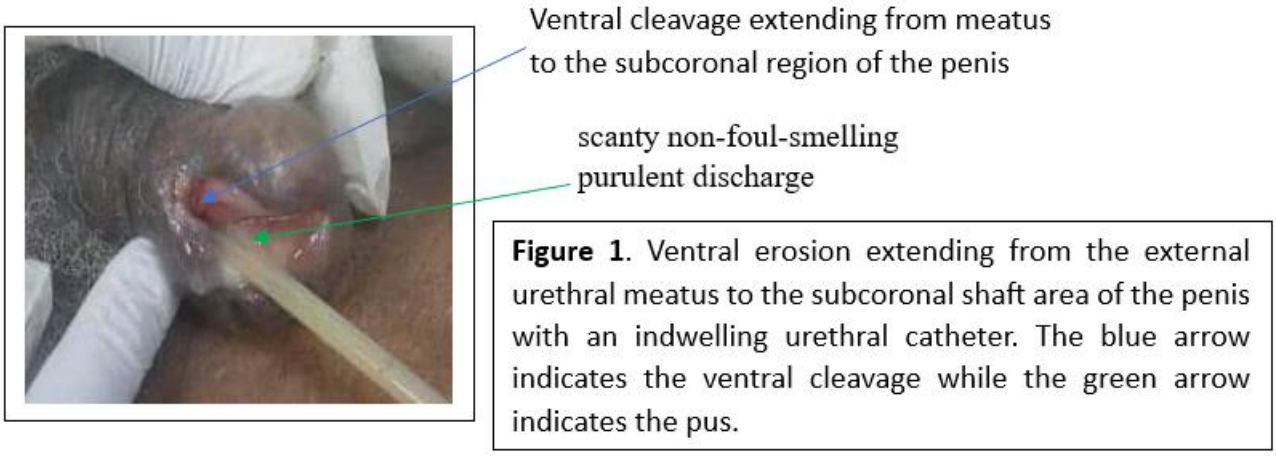


**Figure 1**. Ventral erosion extending from the external urethral meatus to the subcoronal shaft area of the penis with an indwelling urethral catheter. The blue arrow indicates the ventral cleavage while the green arrow indicates the pus.

## DISCUSSION

Urethral catheter-related complications range from most common urinary tract infection to rare conditions such as urethral diverticulum, aberrant Foley's catheter placement, penile ischemic necrosis, bulbar artery pseudoaneurysm and iatrogenic hypospadias.1,2 Iatrogenic (acquired) hypospadias is a seemingly infrequent clinical condition that may not be readily identified except it is actively looked for as there are many patients being managed with indwelling urethral catheters.

Indwelling urinary catheter is said to be short-term if left in place for <30days and regarded as long-term when in situ for 30days or more.3 Protracted indwelling urethral catheter can generate a downward pressure, which may be related to the large size of Foley's catheter or inappropriate method of securing catheter, which interferes with blood supply of urethra leading to ischemic necrosis and

sloughing off of the affected part.2 In our patient, a smaller catheter could have averted the complication and more importantly the catheter was not appropriately fastened to the skin. The timespan between urethral catheterization and recognition of hypospadias in our client was about a year. Literature has shown that hypospadias can develop anytime between 1 month and 16 years after urethral catheterization.[4]

Iatrogenic hypospadias classification by Becker et al5 outlines four grades of iatrogenic hypospadias as follows:

- **Grade 1:** cleavage is from the meatus and does not extend beyond the corona glans penis.
- **Grade 2:** cleavage extends from meatus to the subcoronal shaft areas of the penis.
- **Grade 3:** cleavage is from the external urethral meatus to the scrotum.
- **Grade 4:** meatus is not affected, but pressure necrosis is seen along the penile shaft.

The acquired hypospadias in our patient can be defined as grade 2 (Fig. 1).

Surgical repair of iatrogenic hypospadias is a valid option of intervention. However, this was not considered yet in our patient because of his advance age and multiple medical co-morbidities.

## CONCLUSION

Overall, to prevent iatrogenic hypospadias from prolonged urethral catheterization, the following anticipatory measures should be considered: suprapubic catheterization, use of appropriate catheter size, and securing the catheter to lower anterior abdominal wall or thigh without tension on the urethral mucosa ventrally.

Conflict of interest

None.

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