

# PENILE GANGRENE FOLLOWING CONDOM CATHETER URINARY DRAINAGE: A CASE REPORT

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## ABSTRACT

External urine collecting devices have been a boon to patients of urinary incontinence since their invention in late 90s. They have replaced the need for uncomfortable indwelling catheters in these patients. As safe as they may be, ghastly complications have occurred infrequently, mostly due to their inappropriate application. Such penile and urethral complications add to the morbidity of the patients significantly. They can be easily avoided by following few simple steps of catheter care, thus emphasizing the need to aware clinicians and health care workers about the correct application methods. Here we discuss a case of 60 year old male who developed penile skin necrosis and urethral fistula due to chronic use of condom catheter.

**KEYWORDS** condom catheter, penile gangrene, urinary fistula

## Case Report

A 60 year-old-male with alcoholic liver disease, pulmonary tuberculosis and Pott's spine was admitted in our hospital for one and a half month in lieu of hepatic encephalopathy. Patient had developed paraplegia and urinary incontinence, hence was put on condom catheter drainage. Later he was discharged with condom catheter in situ and instructions about catheter care. A month later patient presented to our surgical emergency and was found to have a band like area of necrosis and gangrene at the proximal 1/3 of penis and fistulisation with penile urethra. His entire penile skin was macerated. He was immediately put on higher broad spectrum antibiotics, a suprapubic cystostomy was done for diversion of urine and complete debridement of the penile skin was done. Serial debridements and dressings followed over the next few days. Eventually the wound became



**Fig.1:** Penile gangrene with band like constriction

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**Fig.1:** Wound after one week of debridement

healthy and patient was subsequently discharged. At the time of the submission of the report, patient was doing well and was being planned for skin grafting over the penis followed by fistula management.

### Discussion

Many options are available for bladder management in bedridden and incontinent patients which include indwelling catheters, condom catheters and clean intermittent catheterization. Of these condom catheters have best compliance, hence are most often used. It is easy to perform catheter care in this category of patients why patients are discharged from hospitals on condom catheter on presumption that even the day to day care givers will be able to carry out catheter care. However, the gravity should be laid upon the seriousness of complications that can arise out of its chronic use, as ignorance can lead to penile and urethral complications in 15–30% of patients.[1] Complications that can be encountered include skin irritation, maceration, ulceration, allergic reactions, urinary tract infections, fistula formation, penile edema, localized ischemia, and gangrene. [2,3] Gangrene and necrosis of skin of penis are rarest of all these complications. They have been reported to occur sporadically due to various metallic and non-metallic objects inserted at base of penis by individuals themselves either to control incontinence or to have prolonged erection during sexual activities.[4] But cases of gangrene occurring as a result of tourniquet action caused by tight condom catheter have rarely been reported. The tourniquet effect causes penile engorgement due to decreased venous and lymphatic drainage, if strangulation continues; arterial flow too gets compromised, resulting in ischemia and gangrene of the penis. The complications are detected late because bedridden patients have no sensation of the strangulating pain. Although condom catheters are designed to keep skin of penis free from moisture but poorly applied condom can lead to maceration of penile skin due to urinary leak. Continuous contamination from neurogenic bowel and lack of hygiene lead to super infection. Bhat et al. classified penile strangulation into 5 grades for

guiding management [5]:

Grade I: Oedema of the distal penis. No evidence of skin ulceration or urethral injury.

Grade II: Injury to skin and constriction of corpus spongiosum but no evidence of urethral injury. Distal penile oedema and decreased penile sensation.

Grade III: Injury to skin and urethra but no urethral fistula. Loss of distal penile sensations.

Grade IV: Complete division of corpus spongiosum leading to urethral fistula and constriction of corpora cavernosa with loss of distal penile sensations.

Grade V: Gangrene, necrosis or complete amputation of distal penis.

An aggressive surgical treatment to prevent development of subsequent liquefaction, infection, and urinary obstruction is advocated [6]. Delay in treatment may require suprapubic cystostomy or amputation of penis.

### Conclusion

If condom catheters are used for bladder management, vigilant care is required to avoid potentially serious pitfalls. It includes washing penis with soap and water before applying catheter, changing condom every day, not applying the adhesive tape too tightly around the base, checking for any trauma or redness of penile skin and seeking expert opinion in case of any doubt. In spite of these precautions, if any complication occurs, patient should be promptly managed to avoid anatomically destructive and psychologically disturbing surgeries.

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### Disclosure Statement

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

### Competing Interests

The authors declare no conflict of interest.

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