CASE REPORT

Condom catheter induced penile skin erosion

Avinash Kumar Sinha*, Nilay Kumar, Abhinav Kumar, and Saurabh Singh

General Surgery Department, Bokaro General Hospital, Bokaro Steel City, 827004 Jharkhand, India

*Correspondence address. Plot no. 519, Near Saket Vihar Colony, Dhirajganj, Adityapur, Saraikela Kharsawan, 832109 Jharkhand, India. Tel: +91-9599171059; E-mail: asavinashkumarsinha@gmail.com

Abstract

Condom catheters are known to be discrete, reliable, comfortable and very easy to use which makes them preferable to bladder catheter (Saint et al. (Urinary catheters: What type do men and their nurses prefer? J Am Geriatr Soc 1999;47:1453–1457); Hirsh et al. (Do condom catheter collecting systems cause urinary tract infection? J Am Med Assoc 1979;2:0–1)). Condom catheters are widely used in the management of male urinary incontinence, bedridden patient and geriatric population. They are considered to be safe, however, they are associated with complications in care of an incorrect use. In our hospital setup a 73-year-old male bedridden patient attended the surgical opd with complain of penile skin erosion following condom catheter application for 4 days for which dressing was done to remove the slough for 2 days then circumcision was done. Henceforth, although a less known complications are associated with the condom catheter but if not attended promptly can lead to a grave condition like penile gangrene, necrosis, death (Özkan et al. (Penile strangulation and necrosis due to condom catheter. Int Wound J 2015;12:248–9. doi: 10.1111/iwj.12102. Epub 2013 Jun 11); Johnson (The condom catheter: urinary tract infection and other complications. South Med J 1983;76:579–82)).

CASE PRESENTATION

A 73-year-old bedridden male patient presented to surgery opd with erosion of the distal penile skin due to incorrect use of condom catheter for last 4 days. (Fig. 1). Patient is a known case of hypertension, diabetes mellitus, epilepsy, dilated cardiomyopathy, chronic kidney disease.

On examination patient is having karnofsky performance score [1] was 50. On examination a ring shaped skin erosion was present near the corona glandis with exposed under lying superficial fascia of penis covered with slough. Blood investigations reveals leucocytosis (16 100 cells/mm3) with shift to left (neutrophil count 83), increased blood urea (102 mg/dl) and serum creatinine (2.2 mg/dl).

The patient underwent the antiseptic dressing for 2 days with antibiotic cover of ceftriaxone [2], followed by the circumcision on day 3. (Fig. 2).

Post-operative period was uneventful related with this circumcision.

DISCUSSION

Penile strangulation is a rare urological emergency with potentially severe clinical consequences reported. Its occurrence due to condom catheter is even more rare, reported only few times in literature [3].

The clinical presentation depends on the degree and duration of strangulation.

Firstly, edema and venous stasis of the distal portion of the penis occurs associated with a decrease in cutaneous sensitivity. Then ulceration followed by cutaneous necrosis at below strangulation level. The longer the penile strangulation persists, the more the arterial flow is also compromised, resulting in ischemia and gangrene of the penis.

Lack of nociceptive feedback in diabetic patients makes patients unaware of painful sensation due to the tourniquet effect of the condom catheter. Consequently, early symptoms of possible complications due to condom catheter can be overlooked.
Complications and incidents of condom catheter use remain underestimated. Users of CC should be aware of those complications and informed about precautions to take to avoid them.

To ensure a comfortable and secure positioning of condom catheter, it is very important to get the appropriate size of the condom catheter.

It is necessary to measure the penile circumference. The measurement should be taken from the penile base where the diameter is the largest to estimate the correct size. It can sometimes be difficult to choose the right size of condom catheter if the measurement is between two sizes. In this case, it is advisable to choose the smallest size.

The material of the condom catheter is flexible enough to allow the condom catheter to be well adjusted, without being too tight. Choosing the largest size could result in urinary leakage [4].

Before applying the condom catheter, the penis should be cleaned with a neutral pH value soap and water and then dried to allow a tightening of the adhesive and an eviction of leaks. Pubic hair should be trimmed away from the base to the penis to stop it from sticking at the condom catheter.

It is also important to note that the adhesive tape of the condom catheter at penile base is not applied too tightly. The skin of the penis should be inspected routinely.

Most of the condom catheter users face problems of dislodgement and leaking due to unsuitable size or poor positioning. This problem seems to be solved with the use of adhesive strips to avoid urinary leakage. There is also the occurrence of cutaneous lesions and allergies and urinary tract infection due to long-term use of condom catheter.

Different materials are used in confection of condom catheters. It seems that silicone probably has an advantage of its cutaneous tolerance making rare allergic reactions as well as its translucent nature offering a good visibility of the skin to identify any irritation or appearance of skin problem [4].

A study was undertaken to determine whether use of a condom catheter collecting system (CCCS) is associated with urinary tract infection, in this study they concluded that repeated interference with the proper use of CCCS and urethral catheterization during CCCS use are associated with an increased risk of UTI [5].

A study conducted by Palmero Martí and his team had illustrated a case of penile skin necrosis in a patient suffering from urinary incontinence caused by a secondary neurogenic bladder that, in turn, results from a spinal cord injury. The skin necrosis developed out of continuous pressure from the condom catheter. They report the case bearing into consideration that these complications are extremely rare and that references in the literature to the topic are likewise scarce [6].

Our case represents a penis skin erosion with exposed superficial fascia due to strangulation by condom catheter which is a less known complication of condom catheter. It also highlights the importance of careful nursing care and assistance when condom catheter is placed for urinary drainage to achieve the best results and prevent complications.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Karnofsky DA, Abelmann WH, Craver LF, Burchenal JH. The use of the nitrogen mustards in the palliative treatment of carcinoma—with particular reference to bronchogenic carcinoma. Cancer 1948;1:634–56.
2. Stevens DL, Bisno AL, Chambers HF, Dellinger EP, Goldstein EJ, Gorbach SL, et al. Practice Guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the Infectious Diseases Society of America. *Clin Infect Dis* 2014;59:e10–52. https://doi.org/10.1093/cid/ciu296.

3. Özkan HS, İrkoren S, Sivrioglu N. Penile strangulation and necrosis due to condom catheter. *Int Wound J* 2015;12:248–9. doi:10.1111/iwj.12102. Epub 2013 Jun 11.

4. Geng V, Bonns E, Eelen P, Seidler C, Cobussen-Boekhorst H. Bonnes pratiques de soins: l’etui’ penien’—juillet. European Association of Urology Nurses (EAUN), 2008.

5. Hirsh DD, Fainstein V, Musher DM. Do condom catheter collecting systems cause urinary tract infection? *J Am Med Assoc* 1979;240:1. 1.

6. Palmero Martí JL, Bonillo García MA, Pacheco Bru JJ, Alapont Alacreu JM, García Reboll L, Jiménez Cruz JF. Necrosis of the skin of the penis as a complication of the use of a urine collector. *Actas Urol Esp* 2003;27:155–8.