



ASSESSMENT OF INCIDENCE OF PENILE SKIN EROSION / ULCER IN PATIENTS WITH EXTERNAL CONDOM CATHETER URINARY DRAINAGE.

Nursing

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ABSTRACT

INTRODUCTION: Condom catheter is a non-invasive catheter, which is used to drain the urine in male patients, with urinary incontinence, Poor mobility in bedridden status. The use of condom catheters promotes comfort level in patients; it is very easy to use and most importantly reduces the risk nosocomial infections as compared to indwelling catheters.

METHODOLOGY: The study was conducted in Shri Mata Vaishno Devi Narayana Super Specialty Hospital over a period of 3 months, a total of 25 patients, who had condom catheterization, were included in the study after obtaining the informed consent from the participants. The clinical audit assessment was done for first 45 days among 9 catheterized patients and in-service program was implemented among the nurses to improve the catheterization practices. Afterwards post audit assessment was done for next 45 days among 15 catheterized patients.

RESULT: The findings of present study revealed that the majority of the participants (55.55%) had mild (redness), followed by 22.22% had minimal epidermal skin erosion, 11.11% had GII pressure sores and no changes in the skin next was seen in 11.11% study subjects in pre audit phase. The encountered problems associated with condom catheter were improved in the post audit phase wherein no changes in the skin were seen in majority of the participants (87.5%) and 12.5% study subjects had mild redness with cases of Grade I or Grade II, pressure sores.

CONCLUSION: The study concluded that the catheter should be changed after 24 hours, always assess the penile area before the catheterisation and correct size should be applied, re cleaning and drying is essential, application of additional adhesive should be avoided and the use of silicon condom catheter was recommended in case of prolonged catheterization to prevent the penile erosion / ulcers.

KEYWORDS

Penile erosion, penile ulcer, Condom catheterization, Catheterization practices.

INTRODUCTION

Urinary catheterization is a very common procedure in hospitalised patients, Most of the patients undergo the cat; approximately 25% of the hospital admissions require catheterization. The prolonged catheterization generally causes embarrassment or discomfort to patients. Insertion of urinary catheterization can also lead to physical health problems, like urinary tract infection (1/3rd of hospital nosocomial infection), the problems directly to associated with catheterization dependent in the duration of catheterization, etc. commonly and the health problems related to catheterization are significantly associated with duration of catheterization, catheter care practices, type of catheters, etc.¹

There are various urinary catheters; Used in hospitalised patients the condom catheter is being one of them. Condom catheter is a non-invasive catheter, which is used to male patients with urinary incontinence, the use of condom catheters promotes comfort level in patients, and it is very easy to use and reduces the risk of urinary tract infection when compared with indwelling catheters. Although the use of condom catheter is easy but can lead to some physical health issues, like, penile skin erosion / irritation, penile necrosis, strangulation, contact dermatitis, penile skin inflammation, urethral fistulas, gangrene, which are mostly associated with catheter care practices.^{2,3}

The factors predominantly associated with the condom catheter related issues, include pre application status of penile skin; requisites of condom catheter (appropriate size, condition of tubing and urobag, securing mechanism the catheter using frequency of, change of catheter), and lasts and not the least, appropriate catheter care.

Ouslander et al. (1987) observed that prolonged use of condom catheter can lead to urinary tract infection and also affect the skin integrity.⁴ The study conducted by V. Geng et al. (2008), reported that silicon catheters can reduce the skin allergic reactions due to prolonged use of condom catheters as the patient had good tolerance to silicone catheters as well as the silicone condom catheters are translucent in nature which allow the visibility to skin condition.⁵

Kawoosa et al. (2011) and Ozkan et al. (2015), further demonstrated that it is very much important to monitor and assure the pressure of adhesives, which are used to secure the condom catheters, as well as the routine catheter care helps in maintenance of good penile skin integrity.^{6,7}

The present study aimed to assess the incidence of penile erosion / ulcer in admitted patients on external condom catheter urinary drainage.

MATERIAL AND METHODS

The study was conducted in Shri Mata Vaishno Devi Narayana Super Specialty Hospitals over a period of 3 months from 11 January 2021 to 10 April 2021 after obtaining the ethical clearance from institutional ethics committee.

This was a clinical audit in nature wherein the total 25 patients, who had condom catheterization, were assessed for the clinical manifestation of penile erosion / ulcers.

After obtaining, the informed consent from the participant's pre-audit assessment was done for first 45 days among 9 catheterized patients and in service program was implemented among the nurses to improve the post catheterization practices, This was post audit assessment done for next 45 days in 15 catheterized patients.

The audit was planned, and implemented, Followed by evaluation and improvements recommendations. The post audit study included the new recommendations and reevaluation done to all the results of all changed practices.

The data was collected with the help of a clinical audit-nursing checklist on condom catheter induced penile skin erosion.

During the study each patient was closely monitored and further followed. The collected data was organized, tabulated, analyzed and interpreted in both descriptive and inferential statistics i.e. frequency and percentage distribution, mean by using statistical package for social science software (SPSS), version 21. Categorical variables were expressed as number and percentage.

OBSERVATIONS AND RESULTS

The present study revealed that majority of the participants (55.55%) had mild (redness), followed by 22.22% had skin erosion, 11.11% had pressure sores and no changes in the skin was seen in 11.11% study subjects as depicted in table 1.

Table 1 Pre audit assessment – Skin changes

Skin changes	No. of patients	%age
Mild (redness)	5	55.55
Skin erosion	2	22.22
Pressure sore	1	11.11
No change	1	11.11

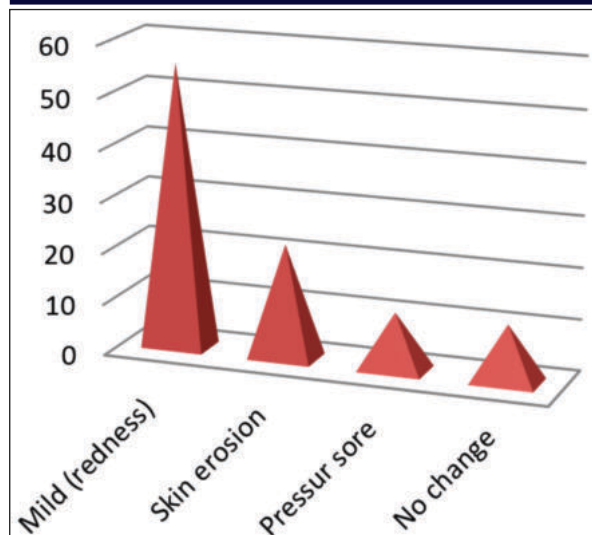


Figure 1 Pre audit assessment – Skin changes

On trying to analyse the possible causes for relatively high incidence of skin changes in the patients it was seen that appropriate condom catheter size was selected only in 33% of the study participants and wrong size was selected for 67% of the study subjects. Skin assessment after catheterization was done correctly in 22% patients only and 78% patients were improperly assisted.. Additional adhesives was used to secure the condom catheter for all the study subjects (100%), and 89% of the study participants reported the changes in the skin condition after 24 hours of catheterization it was observed that, pre application cleaning / drying of penile area was done only in 80% study participants, as shown in figure 2.

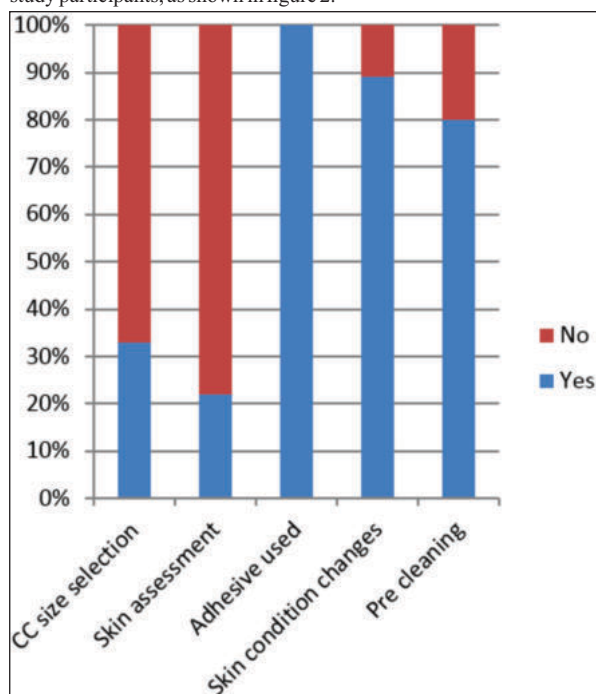


Figure 2 Pre audit assessment – Problems encountered

Table 2 Post audit assessment – Skin changes

Skin changes	No. of patients	%age
Mild (redness)	2	12.5
Skin erosion	0	0
Pressure sore	0	0
No change	14	87.5

Correct Condom catheter size, Skin assessment, Use of additional adhesive, assessment of changes in the skin condition and pre cleaning and drying,

In the part and its study group, deficiencies encountered in the fresh group (Figure-4) where rectified and improved recommendation implemented.

This part of the study revealed that no changes in the skin were found in majority of the participants (87.5%) and only 12.5% study subjects had mild (redness), as depicted in table 2.

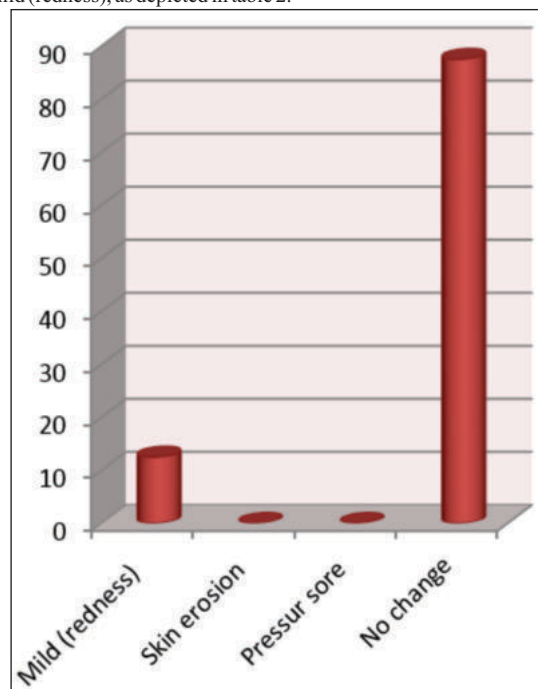


Figure 3 Post audit assessment – Skin changes

The present study found that appropriate condom catheter size was selected for 95% of the study participants and wrong size was selected for 5% of the study subjects. Skin assessment after catheterization was done appropriately in 76% patients and 24% patients were not assessed properly. Additional Adhesive to secure to condom catheter was used in 12% participants only. In this group only in 12.5% of the study participants reported the changes in the skin condition after 24 hours of catheterization whereas no skin changes were seen in the 87.5% after the first 24 hours of the catheterization, (Pre application cleaning / drying of penile area was done in all (100%) study participants), as shown in figure 4.

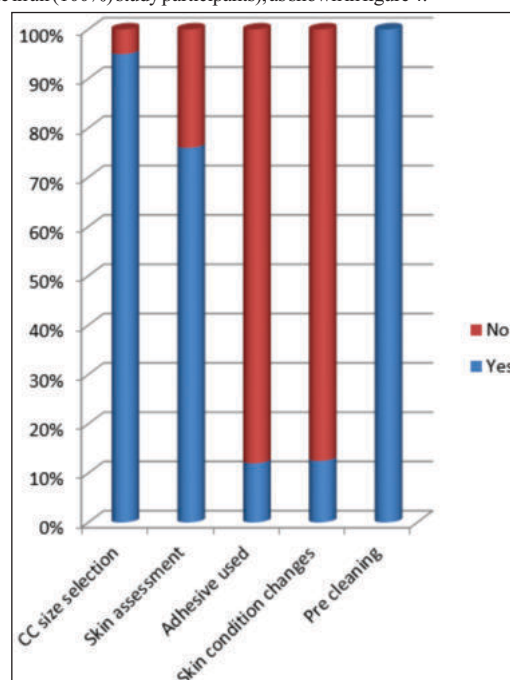


Figure 4 Post audit assessment – Problems encountered

DISCUSSION

In this study, the male patients with condom catheter were selected with the aim to assess the incidence of penile erosion / ulcer. Data was collected analyzed and discussed with previous literature.

The fresh port of study revealed that in the initial audited group with current culture care practices, 88.89% patients and some skin changes after 24 hours (Mild redness (55.55%), Superficial skin erosions 22.22% and pressure sores Grade II only in 11.11% had normal penile skin.

After analysing the possible deficiencies in current catches case practices, following possible causes were noted.

- i) Improper selection of condom catheter sizes:
- ii) Improper pre application
- iii) Skin assessment
- iv) Cleaning and drying of skin
- v) Additional adhesive use for securing the catheter.
- vi) Poor application and skin assessment.

After implementing the above deficiencies in the post audit study group remarkable changes was noted as only 12.5% study participation had skin redness, And no cases of pressure ulcers.

Observed the penile necrosis associated with condom catheterization. In another study conducted by Jabbour et al. (2018) reported penile strangulation due to condom catheterization.

Case report by Zahgbib Selim et al. (2019), found that patient had penile gangrene and penile strangulation.⁹ Similarly Dodia B et al. (2020)

Commonest problems encountered in the present study in pre audit phase were selection of inappropriate condom catheter size, poor skin assessment after catheterization, use of additional adhesive to secure the condom catheter, not monitoring the changes in the skin condition after catheterization and lack of pre application cleaning / drying of penile area. All the encountered problem were declined in post audit phase of assessment after the implementation of in service education program for the staff nurses dealing with the patients.

In similar study conducted by Zahbib Selim et al. (2019), reported that a rubber was placed tightly around the penile area to maintain the condom catheter at its place which results in penile injury. V. Geng et al. (2008), suggested that penile injuries can be prevented by using the appropriate size of condom catheter and use of silicone catheter in longer duration can prevent the skin irritation.

CONCLUSION

The present study concluded that based in earlier policy of frequency change of CC at 48 hours led to unacceptably higher rates of penile pressure sores, correct condom catheter size assessment not always done, incorrect additional adhesive implement led to additional increase in penile sore formation, pre application cleaning/ drying were not practiced significant reduction in penile ulcer formation. It is recommended that catheter should be changes after 24 hours, correct size assessment should be dry applied, re cleaning and drying is essential, application of additional adhesive should be avoided and the use of silicon condom catheter was recommended in case of prolonged catheterization.

REFERENCES

1. Saint Sanjay, Kaufman Samuel R., Rogers Mary A. M., Baker Paul D., Ossenkop Kathleen, Lipsky Benjamin A. Condom Versus Indwelling Urinary Catheters: A Randomized Trial. *JAGS*, 2006; 54:1055-1061.
2. Jabbour Youness, Abdoulazizi Bilgo, Karmouni Tarik, Khalid El Khader, Koutani Abdellatif, et al. Penile Gangrene and Necrosis Leading to Death Secondary to Strangulation by Condom Catheter. *Urology; New York*, 2018.
3. Dodia B., Dodia J., Dodia V. Condom Penile Necrosis. *Indian J Surg*, 2020; 82, 729-730.
4. Ouslander J. G., Greengold B., Chen S. External Catheter Use and Urinary Tract Infections Among Incontinent Male Nursing Home Patient. *Journal of the American Geriatrics Society*, 1987; vol. 35 no. 12, pp. 1063-1070.
5. Geng V., Bonns E., Eelen P., Seidler C., Boekhorst Cobussen H., *Bonnes pratiques de soins : l'état pénien - juillet*, 2008.
6. Kawoosa N. U. N. Isolated Gangrene of the Penis in a Paraplegic Patient Secondary to a Condom Catheter. *Indian Journal of Surgery*, 2011; vol. 73 no. 4, pp. 304-306.
7. Ozkan H. S., Irkoren S., Sivrioglu N. Penile strangulation and necrosis due to condom catheter. *International Wound Journal*, 2015; vol. 12 no. 3, pp. 248-249.
8. Zaghib Selim, Chakroun Marouene, Saadi Ahmed, Boussaïfa Hamza, Bouzouita Abderrazak, Derouiche Amine, et al. Severe penile injury due to condom catheter fixed by a rubber band: A case report. *International Journal of Surgery*, 2019; Vol. 64, Pages 120-122.