



INTRAVESICAL IRRIGATION WITH LEVOFLOXACIN VS POVIDINE-IODINE IN CATHETER ASSOCIATED UTI.

General Surgery

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KEYWORDS

INTRODUCTION -

Recurrent urinary tract infections, defined as 3 or greater urinary tract infections (UTIs) in one year, or 2 or more UTIs in six months, are a common and costly public health concern. Recurrent uncomplicated UTIs can be addressed with a variety of interventions, such as behavioral modification, self-started antibiotic therapy or short-term suppressive antibiotics, and the majority of these patients can be managed without referral to a urologist. A variety of etiologies, from benign prostatic hypertrophy to urethral stricture disease, may result in a patient ultimately requiring catheterization for bladder emptying. Catheter-associated urinary tract infection (CAUTI) is the most common nosocomial infection in hospitals and nursing homes, comprising >40% of all institutionally acquired infections. No effective method has been developed to prevent CAUTI. Many methods were used to prevent like topical meatal antimicrobials, disinfectants added to the urinary drainage bag, and antimicrobials coatings for catheters but none proved. The most common organisms responsible for CAUTI are *Escherichia coli*, *Candida* spp., *Klebsiella pneumoniae*, *Streptococcus agalactiae*, *Enterococcus faecalis*, and *Pseudomonas aeruginosa*.

Aim –

To study the effect of bladder wash with levoflox vs povidine-iodine in CAUTI in preventing recurrent UTI and other complications

MATERIALS AND METHODS -

This study was performed on a total of 60 catheterized patients who were admitted to the surgery department. Informed written consent was taken from the patients or patients' relatives after providing appropriate information to the concerned. Confidentiality of the data was ensured. They were randomized after catheterization to either of the two groups – [A] levoflox group and [B] povidine-iodine group. Urine C/S was performed on days 3, 7, and then weekly till the removal of catheter or discharge for the patients in both the groups. Group A got bladder wash with levoflox daily and group B got betadine wash daily under strict aseptic conditions. Both groups received standard catheter care including perineal care; the only difference was the bladder wash.

Appendix 1

Inclusion Criteria

- Informed consent
- Age above 18 years
- Patients available within 24 hours of catheterization

Appendix 2

Exclusion Criteria

- Past history of recurrent UTI
- Urine culture positive within 24 hours after enrolment in to the study
- Immunocompromised patients (AIDS, chemotherapy)
- History of diabetes
- Patients with renal insufficiency
- Catheter removed before third day

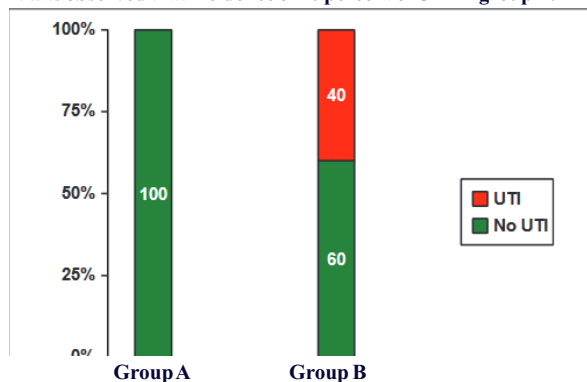
RESULTS –

A total of 60 patients were taken into study, with 30 each in either group. Age of the group ranges from 18-60 yrs. The groups were homogenous in terms of age, sex, level of consciousness, size of

catheter and duration of catheterization, and systemic usage of steroids and antibiotics.

Variables	Study group n = 30	Control group n = 30	P value
Age (years)	19–65 (38)	18–68 (42.5)	0.399
Males (%)	16 (53)	16 (53)	1.0
Females (%)	14 (47)	14 (47)	-
Duration of catheterization (days)	3–29 (7)	4–20 (8)	0.823

It was observed that incidence of 40 percent of UTI in group B.



DISCUSSION –

Many studies showed efficacy of gentamycin, neomycin-polymyxin bladder wash for UTI treatment. In our study, we used levofloxacin for bladder irrigation in one group compared to the other group. It was observed that *Pseudomonas aeruginosa* is the most common organism isolated from culture. In the present study, the pattern of antibiotic resistance was ceftazidime (100%), netilmicin (83%), imipenem (75%), ciprofloxacin (75%), and meropenem (60%) have also been studied. It is easy to implement and cost effective. The main limitation of this study was the small sample size.

CONCLUSION –

There is a varying pattern of antibiotic sensitivity and resistance in different institutions. The most important thing to note is the fact that the bacteria have started developing resistance to higher antibiotics. This is very important since the indiscriminate use of antibiotics can lead to resistance, thus potentially endangering the life of a patient, and so our study of antibiotic bladder wash does not lead to any resistance and can prevent or treat UTI.

REFERENCES –

1. Warren JW, Platt R, Thomas RJ, Rosner B, Kass EH. Antibiotic irrigation and catheter-associated urinary-tract infections. *New England Journal of Medicine*. 1978 Sep 14;299(11):570-3.
2. Bruun JN, Digraanes A. Bladder irrigation in patients with indwelling catheters. *Scandinavian Journal of Infectious Diseases*. 1978 Mar 1;10(1):71-4.
3. Harmon C, Hassoun A. Antibiotic bladder irrigation in preventing and reducing chronic urinary catheter-related urinary tract infections (UTI). *InOpen Forum Infectious Diseases* 2017 Oct 4 (Vol. 4, No. Suppl 1, p. S347).
4. Waites KB, Canupp KC, Roper JF, Camp SM, Chen Y. Evaluation of 3 methods of bladder irrigation to treat bacteriuria in persons with neurogenic bladder. *The journal of spinal cord medicine*. 2006 Jan 1;29(3):217-26.
5. Ochoa DC, Healy R. Intravesical agents for prevention of recurrent urinary tract

- infections. *European Urology Focus*. 2024 Aug 19.
6. Marei MM, Jackson R, Keene DJ. Intravesical gentamicin instillation for the treatment and prevention of urinary tract infections in complex paediatric urology patients: evidence for safety and efficacy. *Journal of pediatric urology*. 2021 Feb 1;17(1):65-e1.