



Canadian Journal of Medicine

WWW.CIKD.CA

journal homepage: <https://www.cjm.cikd.ca>



Case Study

A Case Study of Eliminating Urinary Tract Infections for an Elderly Woman with Frequent Recurring UTIs

Richard N. Burns*

Smith School of Business, Queen's University, Kingston, Ontario, Canada

Keywords:

Recurring UTIs, Incontinence, *E. Coli*

Received

30 August 2023

Received in revised form

13 October 2023

Accepted

14 October 2023

*Correspondence:

burnsrandb@aol.com

ABSTRACT

This case study concerns an 84-year-old woman who suffered three UTIs in quick succession after not having had one in over a year. Rather than dealing with these infections once they appeared, it was decided to try and determine what was causing them and then treat this cause. The patient had an over-active bladder and wore incontinence protection to bed at night. One possible cause was infection that could develop from the patient sleeping in soiled incontinence protection. The patient was instructed to shower before going to bed at night and upon arising in the morning. Once this routine was established, the UTIs disappeared. At this writing, the patient has not had a UTI for six months. This success suggests the importance of incontinent women washing before bed and after waking up. For bed ridden patients, or patients in long-term care facilities where daily showers are not possible, perhaps using wet wipes after each bowel movement will also prevent UTIs from occurring.

Background:

The patient's UTI history is shown in [Table 1](#):

Table 1

History of Prescriptions for a UTI

Year	Month	Day	Days Since Last UTI	Medication
2021	8	21		sulfamethoxazole&trimethop. 800&160mg
2022	8	23	367	Fosfomycin, one sachet
2022	9	6	13	Amoxicillin 500mg, 1 tablet every 12 hrs. 7 days
2022	10	21	45	cephalexin 500mg, 3 a day for 5 days
2022	11	4	13	Cefixime 400mg ½ pill daily for 7 days
2022	12	21	47	Cephalexin 400mg, 2 a day for 7 days
2023	1	5	15	AA-Norfloxacin 400mg, 1 a day for 7 days

[Table 1](#) makes it clear that a UTI started on 2022-8-23. The medication administered did not cure the infection, so a second prescription was started on 2022-9-6. This second prescription cleared up the infection. Another UTI occurred approximately five weeks later. Again, it took two prescriptions to clear the infection. A third UTI began about six weeks later on 2022-12-09. Once again, this new infection required two prescriptions to clear the infection. The laboratory test was reviewed and indicated that the cause of the infection was *E. coli*, the most prevalent cause of UTIs.

A number of alternative treatments were considered. Prophylactic antibiotics were not considered because of the risk of bacterial resistance and the unwanted possible complications of such a treatment. Preventing a situation from occurring that could lead to a urinary tract infection became the goal of this case study. There are no published papers using this approach.

The closest thing to it is to put a patient on a maintenance dose of one or more prophylactic medications including a prophylactic antibiotic. This method is based on allowing bad microbes to enter the uterus and then killing them. When a situation occurs that could develop into an infection, the hope is that there is enough medication to kill the bad microbes in the uterus before an infection occurs. Rodriguez-Mañas [1] suggested that treating the patient with drugs helped to prevent urinary tract infections. Bergman et al. [2] did an extensive analysis of patients taking some type of prophylactic medication in 44 Norwegian nursing homes and found that there was not enough evidence that it helped to prevent a UTI to be able to state so.

Patient's General Health Condition

This case study concerns an 84-year-old woman who was on a drug whose side effect was frequent urination. The drug had been reduced to the minimum, and the frequent urination did not decrease. Recently, she had developed an overactive bladder. Myrbetriq 50mg was prescribed, and she was able to cope. Then, the Myrbetriq was reduced because of her age, and it was no longer effective. Frequently, she could not make it to the toilet in time, so she started wearing incontinence protection. On most nights, she woke up several times with wet incontinence protection.

Since the cause of the UTIs was an *E. coli* infection, it was thought that while lying down in a wet condition any feces present may have dissolved and migrated forward to the urinary tract opening. Hence, it was decided to try to remove this cause of the infection, if possible. The following was the plan of action.

Method

Have the patient shower before going to bed at night and immediately after getting up in the morning. If the showering results in decreasing the onset of a UTI, try using wet wipes rather than showering. Try using a wet wipe after a bowel movement rather than showering before bed and when waking up. The first action, showering at night and in the morning, was instituted immediately.

Discussion

Having a shower before going to bed at night and first thing in the morning eliminated all UTIs for the woman for the first six months after instituting the practice. The only reported method for trying to prevent a UTI for women wearing incontinence protection appears in reports from nursing care homes. AssistedLiving.org [3] has one of the best descriptions of what they do. They are talking about the treatment of patients who cannot look after themselves or communicate when they have had a bowel movement. They suggest that patients who wear adult diapers or briefs should be changed on a regular basis. They recommend checking them every two hours or so, and they should never be allowed to sit in dirty briefs for prolonged periods. There is no mention of how effective this patient treatment is. There is no mention of nighttime care.

The patient in this case study is mobile and capable of looking after herself. The only time she might be wearing wet incontinence protection is when she is asleep at night. More research needs to be done to determine if other practices applied during the day and before going to bed are as effective as showering before going to bed.

Conclusions

The quality of life for incontinent women can be improved by ensuring no feces are present when they might be lying in wet incontinence protection. This will reduce the number of urinary tract infections. Further research could prove that removing feces after each bowel movement during the day will be an effective way to reduce urinary tract infections for all incontinent women.

Declarations

Acknowledgements

Not applicable.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Ethics Approval

Not applicable.

Funding Acknowledgements

Not applicable.

Citation to this article

Burns, R. N. A case study of eliminating urinary tract infections for an elderly woman with frequent recurring UTIs. *Canadian Journal of Medicine*. 2023 Oct 14;5(1):44-47. doi: 10.33844/cjm.2023.6031

Rights and Permissions



© 2022 Canadian Institute for Knowledge Development. All rights reserved.

Canadian Journal of Medicine is published by the Canadian Institute for Knowledge Development (CIKD). This is an open-access article under the terms of the [Creative Commons Attribution \(CC BY\)](#) License, which permits use, distribution, and reproduction in any medium, provided the original work is properly cited.

References

- [1] Rodriguez-Mañas L. Urinary tract infections in the elderly: a review of disease characteristics and current treatment options. *Drugs in Context*. 2020;9. <https://doi.org/10.7573/dic.2020-4-13>
- [2] Bergman J, Schjøtt J, Blix HS. Prevention of urinary tract infections in nursing homes: lack of evidence-based prescription? *BMC Geriatrics*. 2011 Dec;11:1-6.
- [3] AssistedLiving.org. 3 simple ways to prevent a UTI in elderly women, <https://www.assistedliving.org/>; 2023 [accessed 13 October].