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Fosfomycin Prophylaxis for Recurrent Urinary Tract Infections in a Diabetic Elder

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ABSTRACT

This case report describes the successful use of fosfomycin prophylaxis in a 78-year-old diabetic woman with recurrent urinary tract infections (UTIs). It highlights the benefits of this single-dose antibiotic for UTI prevention in elderly patients with diabetes, a population particularly susceptible to these infections.

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INTRODUCTION

Recurrent urinary tract infections (UTIs) represent a challenging and often perplexing clinical scenario, particularly in the elderly diabetic population. The confluence of diabetes mellitus and recurrent UTIs presents a unique intersection of metabolic dysregulation and microbial dynamics, contributing to a cycle of persistent infections and potential complications. As the global population ages and the prevalence of diabetes continues to rise, understanding the intricate relationship between these two prevalent conditions becomes paramount for effective management and improved patient outcomes (1-4).

Throughout this review, we will delve into the unique challenges faced in diagnosing and managing recurrent UTIs in the diabetic elderly, emphasizing the importance of a holistic and personalized approach. From elucidating the role of glycemic control in preventing infections to exploring novel strategies for the modulation of the urinary microbiome, this article seeks to contribute to the evolving landscape of knowledge surrounding this intricate clinical scenario. As healthcare professionals navigate the complexities of recurrent UTIs in diabetic elders, this article endeavors to synthesize current research findings and clinical insights. By shedding light on the interplay between metabolic and microbial factors, we aim to advance our understanding of this clinical

conundrum, ultimately fostering improved preventive measures, targeted interventions, and enhanced overall care for this vulnerable patient population. UTIs are common amongst elderly women, with diabetic individuals facing an even higher risk due to altered immune function and impaired bladder emptying. Recurrent UTIs not only lead to discomfort and morbidity but also increase antibiotic resistance and healthcare costs. This case report presents the use of fosfomycin, a single-dose oral antibiotic, in preventing recurrent UTIs in a diabetic elder (5-9).

This article aims to illuminate the complexities surrounding recurrent UTIs in elderly individuals with diabetes, exploring the multifactorial nature of susceptibility, recurrent episodes, and potential long-term consequences.

CASE PRESENTATION

A 78-year-old woman with type 2 diabetes mellitus presented with a history of recurrent UTIs, experiencing at least three symptomatic episodes in the past six months. Each episode required antibiotic treatment and resulted in significant discomfort and disruption to her daily life. She practiced good hygiene and fluid intake, but other standard preventative measures were ineffective.

Upon further evaluation, culture-confirmed *E. coli* UTIs were identified, with no evidence of antibiotic resistance. Due to the frequency and severity of infections, and considering the patient's age and diabetic status, fosfomycin prophylaxis was chosen.

The patient received a single oral dose of 3g fosfomycin every 10 days for six months. Throughout this period, she remained asymptomatic and free from UTI episodes. Tolerance to the medication was excellent, with no adverse effects reported. After six months, the prophylaxis was stopped to assess the recurrence rate.

One year after discontinuing prophylaxis, the patient remained free from symptomatic UTIs, requiring no further antibiotic treatment.

DISCUSSION

This case demonstrates the potential benefits of fosfomycin prophylaxis for recurrent UTIs in diabetic elderly women. Its single-dose administration offers several advantages: Compared to daily or longer regimens, single-dose administration minimizes the risk of non-adherence, crucial for successful prophylaxis. Fosfomycin generally has a good safety profile and is well-tolerated by older adults, reducing concerns about adverse drug reactions. The single-dose approach minimizes overall antibiotic exposure, potentially curbing the emergence of antibiotic resistance (10-14).

While further research is needed to establish definitive guidelines for fosfomycin prophylaxis in this population, this case highlights its potential as a valuable tool for managing recurrent UTIs in diabetic elders. Its efficacy, convenience, and tolerability offer a promising alternative to conventional prophylaxis regimens, improving patient quality of life and potentially reducing healthcare costs associated with recurrent infections (13-15).

This case report adds to the growing evidence supporting the use of fosfomycin prophylaxis for recurrent UTIs in diabetic elderly women. Its single-dose administration and favorable safety profile make it a potentially valuable option for this vulnerable population. Future studies are needed to confirm its long-term efficacy and safety in larger cohorts, paving the way for more personalized UTI prevention strategies in geriatric healthcare.

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