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URINARY TRACT INFECTIONS

Are the estrogens an effective umbrella against bacterial bladder invasion?

Jerzy B. Gajewski

Department of Urology, Dalhousie University, Halifax, Canada

This is a well design study which showed effectiveness of the topical estrogen on prevention of asymptomatic bacteriuria (AB) in post-menopausal women with stable Type II diabetes. Vaginal microecology is of special interest since rarely it is taken into account in this kind of study. AB is a very complex issue with different characteristics and sometimes conflicting results. There are several aspects which need to be addressed.

What is a definition of asymptomatic bacteriuria? Authors [1] used $\geq 10^5$ cfu/ml bacterial count, which is a classic definition. However, several recent reports indicate that 10^3 cfu/ml or even lower may be more appropriate. Would this have changed the conclusions? I doubted. However, we have to keep in mind that we do not have a perfect definitions. I was also surprised that no *Klebsiella* organism was reported. Is this really asymptomatic or it is related to peripheral neuropathy and decreased bladder sensation? A lot of patients (25–90%) with type II diabetes have diabetic cystopathy. Bladder cystopathy has been described as decreased bladder sensation, poor contractility and increased post-void residual urine (PVR). Aspects of voiding dysfunction and post void residual were not address at all in this paper. It is well known that high PVR contributes to recurrent UTI's and AB. Estrogens have been shown to improve urethral function in patient with incontinence but there is little evidence in literature that it would improve

detrusor contractility or PVR. The incidence of peripheral neuropathy was the same in both groups in this report but this may not be extrapolated into the diabetic cystopathy occurrence.

The correlation of sexual activity and recurrent AB and UTI's is also well established in all ages. Although sexual activity may decrease in postmenopausal women and diabetes, this should also be taken into consideration, before any final conclusions. Using pefloxacin for treating symptomatic UTI's is quite heavy approach. I think this treatment should be reserved for patients with life threatening infections or when the culture shows resistant bacteria or patient is allergic to more commonly used antibiotics as ampicillin or sulfa drugs. This is of particular importance in view of the emergence of resistant bacteria to even the newest antibiotics. Statistical analysis of the patients' population was not done according to the principle of "intention to treat" analysis. Several patients were excluded from both groups after inclusion into the study. Although, this may not have changed the results significantly but weakened the final conclusions.

Although the present study showed beneficial results of estrogen on AB and recurrent UTI's, there are several reports in the literature which did not find a protective effect of estrogen on AB or UTI's in postmenopausal women. Therefore, the efficiency of estrogen in preventing AB and UTI's is still questionable.

References

1. Kasyan G, Berketova TY, Rogozin AK, Pushkar DY. Asymptomatic bacteriuria in postmenopausal women with diabetes mellitus. *Cent Eur J Urol*. 2013; 66: 320–326. ■

Correspondence

Prof. Jerzy B. Gajewski
jgajew@dal.ca