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IS ANTIBIOTIC PROPHYLAXIS NECESSARY FOR INTRAVESICAL INJECTION OF BOTULINUM TOXIN IN WOMEN WITH DETRUSOR OVERACTIVITY?

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Introduction:

There are no guidelines regarding antibiotic prophylaxis for Botulinum toxin (BoNT-A) treatment for women with detrusor overactivity, and studies investigating their role demonstrate conflicting or inconclusive results (1,2). The reported rate of urinary tract infection (UTI) following BoNT-A varies from 10-44% and the majority of these studies involve procedures with antibiotic prophylaxis 1,3.

Objective:

Investigate the rate of UTI following intravesical BoNT-A without antibiotic prophylaxis and the correlation between previous UTI history and post-treatment UTI.

Methods:

Retrospective cohort study of women undergoing outpatient intravesical BoNT-A for detrusor overactivity in a district general hospital between 2020 and 2023, identifying 97 treatment episodes. All patients were screened to exclude infection via mid-stream urine culture within 2 weeks of procedure and majority (92%) treated with 100 units BoNT-A. UTIs were defined by significant growth on urine culture. Patients were followed up at 6 weeks post-procedure. Data was collected from electronic and paper medical records.

Results:

The overall risk of UTI was 6.2% (4/97) at 6 weeks and 20% (19/97) at 6 months, as denoted by a positive urine culture in symptomatic patients.

The risk of UTI in patients with no preceding UTI history (12 months prior to treatment) was 2.8% (2/71) at 6 weeks compared to 15.4% (4/26) patients with any previous UTI history (relative risk 5.46; $p = 0.04$).

Those with recurrent UTI experienced the greatest risk of post-BoNT-A UTI (50%; 3/6) compared to those without UTI history (16.9%, 12/59) over 6 months (relative risk 2.95; $p = 0.02$), although this cohort was small.

Discussion:

Intravesical BoNT-A without antibiotic prophylaxis does not lead to a greater risk of developing UTI. Previous UTI is a risk factor for developing post-BoNT-A UTI.

References:

1. Getaneh et al 2024. Antibiotic prophylaxis for onabotulinum toxin A injections: systematic review and meta-analysis. *Int Urogynecol J* 35(1):19-29
2. Eckhardt et al 2022. Antibiotic regimen and route of administration do not alter rates of urinary tract infection after intravesical botulinum toxin injection for overactive bladder. *Int Urogynecol J* 33(3):703-709
3. Reynolds et al 2022. Incomplete bladder emptying and urinary tract infections after botulinum toxin injection for overactive bladder: Multi-institutional collaboration from the SUFU research network. *Neurourol Urodyn*. 2022 Feb; 41(2): 662–671.