

HIGH PREVALENCE OF DOCUMENTED ANTIBIOTIC ALLERGIES AND BACTERIAL RESISTANCE IMPACTS CARE OF WOMEN WITH RECURRENT URINARY TRACT INFECTIONS.

Hypothesis / aims of study: Recurrent urinary tract infections (RUTI) are a common source of urology referrals costing the U.S. healthcare system \$2.4 billion per year (1). Many women with RUTI experience adverse reactions to common antibiotics while others develop bacterial resistance to first- or second- line antibiotic therapies (2). The prevalence of documented allergies to common urinary tract antibiotics and bacterial resistance patterns in a series of women with RUTI were investigated as these two key factors may complicate uro-gynecological care.

Study design, materials and methods: Following IRB approval, electronic medical records of patients referred for RUTI management were reviewed. Data collected included age, ethnicity, number of documented allergies to oral urinary antimicrobials, and the last documented positive urine culture with bacterial type and susceptibility. Exclusion criteria were women with neurogenic bladder, using catheters permanently or intermittently, unstable diabetes mellitus, with lower or upper tract structural anomalies, or on chemotherapy. A patient classification combining both allergy and urinary antibiotic resistance was designed to stratify the level of therapeutical challenge.

Results: Between 1999 and 2012, 219 consecutive non-neurogenic patients (mostly Caucasian; mean age: 69 ± 10 years) were evaluated and treated for RUTI. A total of 239 allergies to commonly used antibiotics for urinary infection were noted in 165 patients, including 65 (27%) for penicillins or cephalosporins, 83 (34%) to sulfa, 54 (24%) to fluoroquinolones, 22 (9%) to nitrofurantoin, and the remaining 15 (6%) to other antibiotics.

The mean number of allergies was 1.44 ± 1.2 (range 0-7). 54 patients (25%) had no allergy, 104 (47%) 1-2, and 61 (27%) ≥ 3. Of the 219 patients, 197 (89%) had a retrievable positive urine culture with antibiotic susceptibilities available. 66 (30%) of the cultured pathogens were resistant to no antibiotic, 57 (26%) to one, 34 (15%) to two, and 40 (18%) to 3 or more. Pathogens were E.Coli (76), Enterococcus (23), Proteus (7), Klebsiella (16), Staphylococcus (4) and 2 had more than one organisms (2). 13 (6%) patients have controlled diabetes mellitus and 45 (20%) used hormone therapy. About one third of patients fell into the most difficult categories of treatment.

Level of treatment challenges			N=197
Ideal - 0	Very sensitive bacteria	≤ 2 Allergy	66 (33%)
Mild - 1	very sensitive bacteria	> 2 Allergy	64 (32%)
Moderate - 2	Bacteria resistant to > 2 urinary antibiotics	≤ 2 Allergy	54 (27%)
Severe - 3	Bacteria resistant to > 2 urinary antibiotics	> 2 Allergy	13 (6%)

Interpretation of results:

This large study on RUTI in women emphasizes the need to consider bacterial resistance and number of allergies to urinary antibiotics in the challenging management of these patients. The proposed classification indicates that over one third of women with RUTI are very difficult to treat. This classification may be useful to follow patients over time and detect early on those more prone to end up in the higher categories.

Concluding message: In this series of women with longstanding history of RUTI referred to a tertiary care center for RUTI management, we found a high rate of documented allergies to common urinary antibiotics, as well as urine cultures showing high antibiotic resistance patterns—making this a challenging population of patients to treat. To compare patients in regards to therapy, a simple classification was designed based on allergies and urine culture-based antibiotic resistance. A third of patients with RUTI offer significant therapeutic challenges.

References

1. Urological disease in America 2007
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Disclosures

Funding: The Cain Foundation **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Institutional Review Board of UT Southwestern Medical Center **Helsinki:** Yes **Informed Consent:** No