

BLADDER

Baseline Characteristics, Evaluation, and Management of Women With Complaints of Recurrent Urinary Tract Infections

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The aims of this retrospective chart review study were to determine the proportion of women presenting for recurrent urinary tract infections (UTIs) who met the diagnostic criteria (culture-proven UTI ≥ 3 in 1 year or ≥ 2 in 6 months) and to assess advanced testing utilization, preventive therapy use, and risk factors. Of 600 women, 71% had follow-up with a median of 179 days. Urinary tract infection symptoms included frequency (50%), dysuria (46%), urgency (43%), and malodorous urine (7%). One third met the rUTI diagnostic criteria. Two hundred thirty-four (39%) underwent advanced testing, and 9% (21/234) of women who underwent advanced testing had a change in clinical care. Preventive therapy use increased after consultation ($P < 0.001$), with vaginal estrogen (47%) being most common. Compared with women not meeting the rUTI criteria, women meeting the rUTI criteria were more likely to be older (adjusted odds ratio [aOR], 1.03/year; 95% confidence interval [CI], 1.02-1.04), have a prior history of gynecologic cancer (aOR, 4.07; 95% CI, 1.02-16.25), or report UTI symptoms of dysuria (aOR, 2.27; 95% CI, 1.57-3.27), or malodorous urine (aOR, 2.96; 95% CI, 1.47-5.94) and, while equally likely to be receiving preventive treatment prior to consultation, were more likely after consultation (OR, 3.06; 95% CI, 2.05-4.55).

Genetic background but not prostatic epithelial beta-catenin influences susceptibility of male mice to testosterone and estradiol-induced urinary dysfunction

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Urinary voiding dysfunction in aging men can cause bothersome symptoms and irreparable tissue damage. Underlying mechanisms are not fully known. The initial goal of this study was to test the hypothesis that prostatic epithelial beta-catenin (Ctnnb1) is required for T+E2-mediated voiding dysfunction. Targeted Ctnnb1 deletion did not significantly change voiding function in control or T+E2 treated mice but led to the surprising discovery that the C57BL/6J \times FVB/NJ \times 129S1 mixed genetic background onto which Ctnnb1 loss of function alleles were maintained is profoundly susceptible to voiding dysfunction. The mixed background mice develop a more rapid T+E2-mediated increase in spontaneous urine spotting, are more impaired in ability to initiate bladder contraction, and develop larger and heavier bladders than T+E2 treated C57BL/6J pure bred mice. To better understand mechanisms, we separately evaluated contributions of T and E2 and found that E2 mediates voiding dysfunction. Our findings that genetic factors serve as modifiers of responsiveness to T and E2 demonstrate the need to control for genetic background in studies of male voiding dysfunction. We also show that genetic factors could control severity of voiding dysfunction. We demonstrate the importance of E2 as a key mediator of voiding impairment, and show that the concentration of E2 in subcutaneous implants determines the severity of voiding dysfunction in mice, demonstrating that the mouse model is tunable, a factor which is important for future pharmacological intervention studies.

STONES

Disparities in Kidney Stone Disease: A Scoping Review

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The purpose of the study was to review the available evidence regarding health disparities in kidney stone disease and identify knowledge gaps in this area. A literature search was conducted using PubMed, Embase, and Scopus, limited to articles published in English, from 1971 to 2020. Articles were selected based on their relevance to disparities in kidney stone disease among adults in the United States. Several large epidemiologic studies suggest disproportionate increases in incidence and prevalence of kidney stone disease among women as well as Black and Hispanic individuals in the United States, whereas other studies of comparable size do not report racial and ethnic demographics. Numerous articles describe disparities in imaging utilization, metabolic workup completion, analgesia, surgical intervention, stone burden at presentation, surgical complications, follow-up, and quality of life based on race, ethnicity, socioeconomic status, and place of residence. Differences in urinary parameters based on race, ethnicity, and socioeconomic status may be explained by both dietary and physiologic factors. All articles assessed had substantial risk of selection bias and confounding. Health disparities are present in many aspects of kidney stone disease. Further research should focus not only on characterization of these disparities but also on interventions to reduce or eliminate them.

- Jennifer Allmaras, MPH, 5/24/2021

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