

Researchers identify method to assess UTI risk after pelvic-floor surgery

December 11 2014, by Nora Dudley

Researchers at Loyola University Chicago Stritch School of Medicine may have identified a way to assess who is at risk for developing a urinary tract infection (UTI) following pelvic-floor surgery. These findings were reported in the latest issue of *PLOS ONE*.

Urinary tract infections (UTIs) are the most common type of <u>bacterial</u> <u>infection</u> and have estimated treatment costs exceeding \$1 billion a year in the United States. Women who undergo <u>surgery</u> for pelvic-organ prolapse or <u>urinary incontinence</u> are more likely to develop a UTI following the procedure. Clinicians have lacked effective methods to identify, and ultimately treat, specific patients with an increased UTI risk in the past.

This study found that certain urinary bacteria and antimicrobial peptides, which normally help the bladder immune system function, may identify women at increased risk for a UTI following pelvic-floor surgery.

"This information may help us improve UTI prevention and treatment strategies for women down the road," said Katherine Radek, PhD, senior author, assistant professor, Department of Surgery and a member of Loyola's Burn & Shock Trauma Research Institute.

The study explored the relationship between urinary bacteria, antimicrobial peptides and UTI symptom severity in 54 women undergoing pelvic-floor surgery. Study participants completed a questionnaire and provided a catheterized urine specimen obtained under



anesthesia on the day of surgery. The urine was analyzed using advanced DNA-based detection methods.

Thirteen participants (24 percent) had positive urine cultures before surgery. The rest (n = 41, 76 percent) had negative urine cultures before surgery. Of these 54 women, 10 (18.5 percent) developed UTI symptoms after surgery, while four (7 percent) had positive urine cultures after surgery.

Researchers found that the diversity and abundance of specific urinary bacteria and the amount of a specific antimicrobial peptide were different in <u>women</u> who developed a UTI following surgery compared with those who did not: lower risk of postoperatvie UTI correlated with greater bacterial diversity, greater abundance of the Lactobacillus species and higher levels of the <u>antimicrobial peptide</u> β -defensin-1.

Further insight into the mechanisms by which bladder bacteria and antimicrobial peptides communicate during normal and disease states will facilitate the development of better prevention and/or treatment strategies for UTI-susceptible populations.

Provided by Loyola University Health System

Citation: Researchers identify method to assess UTI risk after pelvic-floor surgery (2014, December 11) retrieved 28 April 2024 from <u>https://medicalxpress.com/news/2014-12-method-uti-pelvic-floor-surgery.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.