



Commentary on: Urinary symptoms are associated with certain urinary microbes in urogynecologic surgical patients

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Received: 15 August 2018 / Accepted: 4 September 2018 / Published online: 17 September 2018
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This single-centre study attempted to correlate pre-operative urinary microbiome with pre- and post-operative urinary symptoms. Catheter urine specimens and vaginal swabs were taken immediately pre-operatively from 126 women undergoing prolapse or continence surgery. DNA sequencing was used for the microbiology and the validated Over-active Bladder (OAB-q) questionnaire of symptoms was completed by patients pre- and post- operatively.

The urine of 55 women sequenced as positive and the remaining 71 as negative. Pre-operative symptom severity was significantly worse in sequence-positive patients. Higher OAB-q symptom severity (OAB-q-SS) scores were associated with higher numbers of two bacterial species in urine: *Atopobium vaginae* and *Fingoldia magna*. The presence of *A. vaginae* in bladder urine was also correlated with its presence in either the vagina or perineum. However no correlation was found between pre-operative urine microbiome and post-operative symptoms of OAB. Neither bacterial species are detected on routine urine culture. Both are fastidious anaero-

bic members of the Gram-positive phylum Actinobacteria. *A. vaginae* is associated with bacterial vaginosis and may play a role, along with *Gardnerella vaginalis*, in establishing an adherent biofilm thought to be responsible for some bacterial vaginosis treatment failures.

This study adds to increasing evidence that the urine of both healthy women and women with lower-urinary-tract symptoms (LUTS) is not sterile. It is the first peer-reviewed study to find a correlation between both *A. vaginae* and *F. magna* and OAB symptoms. Another important finding is that the pathogenicity of organisms depends on many factors, including host response—that is, the same organism can be pathogenic some of the time but not necessarily all of the time.

Limitations of this study were that urinary specimens and vaginal swabs were not taken post-operatively. There is little discussion as to why post-operative symptoms were not correlated with urinary microbiome, which should be clinically relevant, except to acknowledge that further research is needed.

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