Fecal Microbiota Transplant in Women Reduces Recurrent Urinary Tract Infection Frequency and Associated Bacterial Resistance

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Introduction:

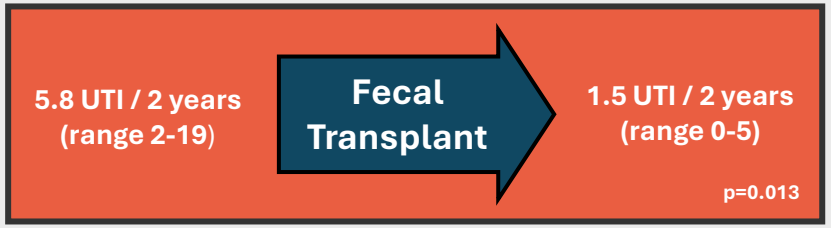
- Recurrent urinary tract infections (rUTI) represent a significant public health burden, contributing to substantial healthcare costs, impaired quality of life, and increasing antimicrobial resistance.
- The gastrointestinal tract serves as a key reservoir for uropathogenic organisms. Modulation of the gut microbiome may influence UTI susceptibility.
- Fecal microbiota transplant (FMT), an established therapy for treatment-refractory Clostridioides difficile colitis, may reduce rUTI frequency by depleting pathogenic bacterial reservoirs and promoting recolonization with commensal organisms associated with favorable antimicrobial resistance profiles.
- Purpose - We compared UTI frequency and bacterial resistance patterns in women with rUTI before and after FMT.

Methods:

- Retrospective, single-institution cohort study of women who underwent FMT for C difficile colitis between 2010 and 2025.
- Patients with concomitant rUTIs, defined by American Urological Association (AUA) guidelines, were included.
- Primary outcome - Number of symptomatic, culture-proven UTIs occurring within the two-year periods before and after FMT.
- Secondary outcome - Changes in antimicrobial resistance patterns, including the presence of vancomycin-resistant Enterococcus (VRE) on urine culture.

Results:

- Ten patients with a mean age of 70.1 years (range 51-95) met inclusion criteria.
- UTI frequency decreased significantly after FMT.



- Three patients had VRE identified on pre-FMT urine cultures; none demonstrated VRE on post-FMT cultures.

Conclusions:

- FMT was associated with a statistically significant reduction in rUTI frequency and elimination of VRE on subsequent urine cultures.
- Modulation of the gut microbiome may play a meaningful role in the prevention of rUTIs in women.
- Prospective clinical trials using microbiome-targeted therapies are warranted to further evaluate the efficacy and durability of FMT as a strategy for rUTI management.