The urinary microbiome after radical cystectomy and urinary diversion


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Background:
• Radical cystectomy (RC) and urinary diversion (UD) is a complex operation with associated morbidity.
• Recent studies have demonstrated the existence of a urinary microbiome which is thought to play a role in numerous disease states.
• Herein, we use 16S rRNA sequencing to characterize the microbiome of the reconstructed urinary tract of bladder cancer patients.

Methods:
• Inclusion: Patients with bladder cancer undergoing radical cystectomy and urinary diversion with either ileal conduit or neobladder
• Antibiotic prophylaxis was administered according to our institutional ERAS protocol.
• Bacterial 16S rRNA sequencing and microbiome profiling were performed.
**Conclusion:**

- The urinary microbiome immediately following UD shows alpha diversity similar to that of the native bladder and bowel, but this **diversity decreases over time**.

- **Patients with infectious complications may have persistently higher alpha diversity** despite prophylactic antibiotic use.

- Larger sample sizes are necessary to more completely characterize the urinary microbiome following UD.