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Cystic Fibrosis Research News

Title:
Urinary tract infections in cystic fibrosis patients

Lay Title:
Urinary tract infections in cystic fibrosis patients

Authors:
Seth A. Reasoner[1], Kyle T. Enriquez[2], Benjamin Abelson[3], Steven Scaglione[2], Bennett Schneier[1], Michael G. O'Connor[4], Gerald Van Horn[1], Maria Hadjifrangiskou[1,5]

Affiliations:
[1]Division of Molecular Pathogenesis, Department of Pathology, Microbiology & Immunology, Vanderbilt University Medical Center, Nashville, TN
[2]Vanderbilt University School of Medicine, Nashville, TN
[3]Division of Pediatric Urology, Department of Urology, Vanderbilt University Medical Center, Nashville, TN
[4]Division of Pediatric Pulmonary, Allergy, and Immunology, Department of Pediatrics, Vanderbilt University Medical Center, Nashville, TN
[5]Vanderbilt Institute for Infection, Immunology & Inflammation (VI4), Vanderbilt University Medical Center, Nashville, TN

What was your research question?
Urinary tract infections are very common, but have not been studied in people with cystic fibrosis. We sought to determine what are the clinical features of UTIs in people with cystic fibrosis and what types of bacteria cause UTIs in the cystic fibrosis population.

Why is this important?
Most cystic fibrosis research focuses on pulmonary infections and their consequences. People with cystic fibrosis are also at a higher risk of other infections due to frequent antibiotic use and hospitalizations. As people with cystic fibrosis continue to live longer lives, we must improve our understanding of non-respiratory infections, such as urinary tract infections (UTIs). UTI is the second most common bacterial infection afflicting human adults. Yet no research has been done to determine whether people with cystic fibrosis – who also suffer from UTIs – have similar or different bacteria compared to people without cystic fibrosis.

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What did you do?

We conducted what is called a "retrospective chart review", which means we reviewed existing records of a 10-year period at a major regional medical center in the United States to identify cases of cystic fibrosis patients who also had a urinary tract infection. We then compared the clinical characteristics of CF patients with UTIs to those CF patients without UTIs. We also identified the types of bacterial pathogens that caused UTIs in CF patients and compared them to those pathogens that cause UTIs in the non-CF patients.

What did you find?

We found that compared to CF patients without UTIs, CF patients with UTIs had more severe disease and more frequent hospitalizations. Another important observation was that – while in the non-CF population UTIs are called by the bacteria *E. coli* – CF patients with UTIs had different pathogens. Specifically, UTIs in CF patients were more likely to be caused by the bacteria *Enterococcus*, a common cause of hospital-acquired UTIs.

What does this mean and reasons for caution?

Our results highlight unique features of UTIs in CF patients that should be investigated separately from UTIs in the non-CF population. By extension, our results emphasize ***the importance of researching non-respiratory infections in CF patients because these non-respiratory infections may be different in CF patients that the same in the general population.*** While we do not suggest treatment guidelines based on our study, we conclude that careful attention should be paid to understanding how non-respiratory infections develop and progress in CF patients to ensure appropriate treatment.

What's next?

We encourage the investigation of non-respiratory infections in people with CF. Discovery of unique features of infections in CF can further clarify the unique pathophysiology of CF. We aspire to investigate how bacteria may behave differently during urinary tract infection in CF patients compared to non-CF patients with UTI.

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cfresearchnews@gmail.com