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UT CONTRIBUTING EDITOR

Toronto—A team of Canadian researchers has isolated at least two unexpected strains of bacteria from the genitourinary fluids of men with type III (nonbacterial) prostatitis. The two strains, Proteobacterium species and Paenibacillus species, have never before been identified in patients with prostatitis.

“It [Paenibacillus] was identified in Norwegian spruce trees. We also found it in one case in the literature, a case of osteomyelitis, but this is the first time it has been identified in the urinary tract in man,” said Keith Jarvi, MD, associate professor of urology at the University of Toronto and Mount Sinai Hospital, Toronto. “It is interesting that this is the most common bacteria we found. This is quite novel.”

The questions now facing researchers are whether the bacteria have clinical effects and whether they are directly or indirectly related to prostatitis symptomatology.

“This is just an association. We are not saying that it can cause prostatitis.”
KEITH JARVI, MD

According to Lori Burrows, PhD, of the Centre for Infection and Biomaterials Research, Toronto General Research Institute, who also collaborated on the study, the theory that unidentified bacteria may be related to the etiology of the disease has been proposed by others, and culturing bacteria from prostatitis and many other diseases remains a significant challenge, according to Lori Burrows, PhD, of the Centre for Infection and Biomaterials Research, Toronto General Research Institute, who also collaborated on the study.

Segments of DNA were obtained using restriction enzymes. The DNA fragments were amplified with PCR techniques. The resulting DNA codes were compared with those in a national database in Urbana, IL. This allowed the team to identify species of Proteobacterium, and Paenibacillus, as well as Flavobacterium.

In addition to identifying the bacteria for the first time, the team also found that Paenibacillus was far more common in men with prostatitis than the controls.

Larger study needed

The next steps in the endeavor are reasonably clear, according to Dr. Jarvi. “We need to confirm these findings with a larger study,” he told Urology Times. “But to prove that it is causal, an antibiotic that would eradicate it needs to be identified and applied to see if symptoms are altered.

In theory, quinolones might work, but we need to find the appropriate culture first. We have not cultured it out yet,” he said.

In addition to identifying novel organisms in prostatitis, Dr. Burrows noted that another important aspect of the research was that it showed that new technology can now detect micro-organisms that had escaped notice because they could not be cultured.

New bacteria strains found in prostatitis patients

Whether strains are related to clinical effects and symptoms awaits further study