

Body Has Antibiotic to Fight Urinary Tract Infection

by NewsTarget

Swedish researchers have discovered that the body produces its own internal antibiotic to help defend itself against urinary tract infections.

Although it was once thought that urine passing through the urinary tract prevented bacteria from accumulating in its membranes, researchers at the Department of Microbiology, Tumour and Cell Biology at the Karolinska Institutet in Stockholm have proven differently. Instead, they found that the body produces an antibacterial peptide, called LL-37, that helps prevent urinary tract infections.

"Antibiotic-resistant bacteria are a growing problem," research leader and professor Annelie Brauner said in a prepared statement. "As the development of resistance to the body's own antibiotic is very rare, it can be used as an alternative or a complement to conventional antibiotic medication."

During the study, urine from healthy children and those with UTIs was tested for levels of LL-37. Results showed very low levels of LL-37 in the urine of healthy children, but high levels in the urine of children with UTIs.

"We were able to show that LL-37 is produced in the epithelial cells of the urinary tracts and the kidneys, and that its build-up and secretion occur within a few minutes after a bacterial attack," said Brauner.

Results of the study appear in the current issue of Nature Medicine.

Nearly 60 percent of women will have a UTI in their lifetime, and 20 percent of them will have more than one.

Up to 40 percent of children who get a UTI will experience kidney scarring from the infection.

"Urinary tract infection is not only painful for the patient but also an economical burden to the individual and society," Brauner said. "Our findings point to a new way to prevent the development of urinary tract infection by boosting the antibacterial peptide LL-37. For patients suffering from recurrent urinary tract infection, attack would quite simply be the best form of defense."

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