Detection of bacterial signal by 16S rRNA polymerase chain reaction in expressed prostatic secretions predicts response to antibiotic therapy in men with chronic pelvic pain syndrome.


Source
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Abstract
PURPOSE:
Some men with chronic pelvic pain syndrome (CPPS) have evidence of bacteria in their prostatic fluid (expressed prostatic secretions [EPS]) detected by 16S rRNA techniques. In this study, we correlate presence of bacterial signal with response to therapy.

MATERIALS AND METHODS:
EPS and first voided urine (VB1) from 47 men with CPPS were analyzed by polymerase chain reaction (PCR) for bacterial signal using universal primers specific for bacterial 16S rRNA. Signal was considered positive if found only in the EPS sample, or if at least 10x stronger in the EPS than in VB1. All patients were treated with antibiotic therapy.

RESULTS:
Thirty-three patients were category IIIa (nonbacterial prostatitis) and 14 were category IIIb (prostatodynia). Seventeen of the 33 category IIIa patients had positive localizing cultures for gram-positive bacteria. However, a positive bacterial signal was detected in 23 EPS samples by 16S rRNA PCR. This signal was found in 14 of 17 culture-positive patients, 7 of 16 of the remaining category IIIa patients, and 2 of 14 of category IIIb patients. No patient with negative bacterial signal improved with antibiotic therapy (negative predictive value 100%). Thirteen patients with positive bacterial signal improved with antibiotic therapy.
CONCLUSIONS:

In men with category III chronic prostatitis/CPPS, bacterial signal detected by PCR can help predict response to antimicrobial therapy.

PMID:10963501

[Detection of bacterial 16S rRAN gene in EPS of men with chronic pelvic pain syndrome and its clinical significance].

[Article in Chinese]

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Source

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Abstract

OBJECTIVES:

To investigate the cause of chronic pelvic pain syndrome (CPPS) and the correlation between presence of bacterial signal and the response to antibiotics by detecting bacterial 16S rRNA gene signal using polymerase chain reaction (PCR).

METHODS:

EPS and first void urine (VB1) from 59 men with CPPS were analyzed by PCR for bacterial signal using universal primers specific for bacterial 16S rRNA gene. If the bacterial signal was found only in EPS or the EPS bacterial signal was at least 10 times stronger than the VB1 one, positive result could be decided for bacterial signal detection. All patients were treated with levofloxacin and azithromycin for 4 weeks. The treatment could be considered effective if more than 50% improvement, compared to the state before the treatment, was achieved in the symptom severity index (SSI), symptom frequency questionnaire (SFQ), national institutes of health chronic prostatitis symptom index of pain (quasi-CPSI) or the patients' general subjective assessment.

RESULTS:
Positive bacterial signal was detected in 46 of the 59 CPPS patients; The difference of improvement rates between positive bacterial signal group and negative bacterial signal group, which were 65%-74% and 0 respectively, was significant.

CONCLUSIONS:

The basis of detecting 16S rRNA gene signal by PCR in clinical practice was built. The study shows that bacterial infection is related to CPPS. Bacterial signal detection results can help predict the effect of antimicrobial therapy.

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Chronic prostatitis/chronic pelvic pain syndrome in elderly men: toward better understanding and treatment.

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Source

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Abstract

Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is the most common of the prostatitis syndromes. It is characterised by pelvic pain, with or without voiding symptoms. CP/CPPS accounts for 2 million office visits in the US alone. Recent epidemiological studies have shown that CP/CPPS can affect men at any age, including those in their 80s. The aetiology is unknown but proposals include infectious, autoimmune, neurologic and psychiatric causes. Men with CP/CPPS are much more likely to have had a past medical history of cardiovascular, neurologic, psychiatric or infectious disease (particularly sinusitis) as compared with asymptomatic individuals. Although leucocytes are commonly found in the prostatic fluid of these men, they do not correlate with the symptoms. The clinical evaluation now includes a validated, self administered symptom score, the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI), which was designed as an outcome measure for treatment trials. This can aid in diagnosis and follow-up of patients' response to therapy. Treatment for CP/CPPS is empiric and limited by a lack of randomised, placebo-controlled clinical trials. Antimicrobials are commonly used to treat the symptoms of CP/CPPS. However, the finding that asymptomatic men have equal or greater numbers of bacteria which localise to the prostatic fluid, compared with men with CP/CPPS, has raised doubts about the contribution of infection to the symptoms. Other commonly
used drugs include alpha-adrenoceptor antagonists, anti-inflammatory drugs, tricyclic antidepressants and anticholinergic agents. The adverse effects of these medications are a concern in older men with CP/CPPS. Other therapies available include minimally invasive procedures such as microwave thermotherapy and transurethral needle ablation, and now neuromodulation devices. Although much progress has been made, particularly in the last 7 years, considerable work still remains to be done to determine the aetiology and pathogenesis of CP/CPPS, and to develop mechanism based therapy that is shown to be effective in controlled trials.

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