Detection of Nanobacteria Infection in Type III Prostatitis - Abstract

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To investigate the relationship between nanobacterial infection and type III prostatitis. The etiology of type III prostatitis remains unclear to date, although the recently discovered nanobacteria (NB) have been implicated in this disease.

A total of 48 patients with chronic pelvic pain syndrome for whom conventional therapy had failed were selected and randomly divided into two groups, one receiving anti-NB treatment and the other receiving a placebo. The NB were isolated and cultured from expressed prostatic secretions and urine samples before and after treatment. The morphologic features were recorded and 16s rRNA gene expression was determined. The curative effect was evaluated by the NB-positive rate and symptomatic changes using the National Institutes of Health Chronic Prostatitis Symptom Index.

After anti-NB treatment, the NB-positive rates had decreased from 62.5% to 16.7% in the expressed prostatic secretions and from 12.5% to 0% in the urine samples after prostatic massage ($P < 0.001$). In the patients receiving a placebo, the positive rates had no obvious change in either the expressed prostatic secretions or the urine samples after prostatic massage ($P > 0.05$). The NB were coccoid or coccobacillary and clustered in a diameter of 100 to 500 nm. The BLAST result revealed that the 16s rRNA gene sequence from the NB in the patients with chronic pelvic pain syndrome was 97%, similar to that of the known NB with identity (97%). After anti-NB treatment, the Chronic Prostatitis Symptom Index scores decreased significantly. In contrast, no change in the Chronic Prostatitis Symptom Index scores was seen after placebo treatment.

The results of our study have shown that nanobacterial infection might be an important etiologic factor of type III prostatitis. Anti-NB treatment could be an effective therapy against refractory type III prostatitis.

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Reference

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