

AUA 2006 - ABST [95] A Preliminary analysis of calcifying particles in the serum and prostates of patients with prostatic inflammation

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Introduction and Objective: Chronic diseases of the prostate such as benign prostatic hyperplasia (BPH) & chronic pelvic pain syndrome (CPPS) have associated findings of chronic inflammation, despite a lack of causal relationship. Numerous attempts to define an infectious agent responsible for the clinical findings have been inconsistent. The possibility of an infectious agent, that has not been uncovered with routine culturing methods, forms the basis for this study.

Methods: Serum from 940 healthy Finnish men were compared with serum from 40 Crohn's, 40 path dx prostatitis, & 40 with path dx carcinoma, using an enzyme-linked immunosorbant assay (ELISA), to detect antigens specific to Nanobacteria(NB) utilizing monoclonal antibodies (Ab) 5/3 and 8D10. This ELISA has not been validated for detecting NB-associated with clinical prostatic disease, yet cross-reactivity with other bacterial species is low. Immunohistochemistry was performed on de-paraffinized prostatic tissue slides, de-calcified with EDTA and stained with the DAKO Catalyzed Signal Amplification kit, employing 8D10 as the primary (target/antigen-detecting) Ab.

Results: The mean (+/-SD) & median concentrations of NB antigen (U/50 μ L) were 379.59 (+/- 219.28) & 640.00 for patients with prostatitis (BPH) vs 3.31 (+/- 3.55) & 2.94 for prostate adenocarcinoma, 1.88 (+/- 2.94) & 0.80 for Crohn's disease, & 7.43 (+/- 25.57) & 0.00 for patients with no clinical prostatic disease. Unpaired t-tests revealed statistically significant differences between the prostatitis (BPH) sera & each of the other groups with $p < 0.005$, but no differences between the other groups themselves. Preliminary studies with immunohistochemistry & 3-D confocal microscopy reveal 16/24 tissue sections + for NB Ag in BPH vs. only 2/22 tissue sections with prostate cancer.

Conclusions: The preliminary findings of this serum screening study suggest that NB antigen may be commonly found in the serum of patients with the pathological diagnosis of prostatitis. Preliminary immunohistologic studies, suggest that NB may be found within the gland itself at a higher rate in patients with BPH relative to patients with adenocarcinoma, however confirmatory studies with a more specific ELISA technique, primary cultures, & with larger numbers of patients in a prospective design are required to determine if 1) NB are a causative organism for clinical hyperplastic and inflammatory disease, & if 2) serological testing can be used to discriminate patients with nanobacterial-associated prostatic disease.

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Moderated Poster: Infections/Inflammation of the GU Tract: Prostate, Urethra & Genitalia (3:30 PM-5:30 PM)