Elevation of Interleukin-1β in Prostate Secretion of Chronic Nonbacterial Prostatitis Patients Who Did Not Respond to Treatment

Introduction and Objective: To measure cytokine changes in the prostate secretion of chronic nonbacterial prostatitis (NBP) patients and examine the clinical usefulness of these changes in differentiating the pathophysiologic mechanism of NBP and in subsequent selection of treatment modalities.
Materials and Methods: Sixty male patients were diagnosed as chronic NBP, and control group of 30 male patients who did not have any clinical evidence of NBP with no WBC in EPS were enrolled in this study. Prostate secretion (centrifuged VB3) was analyzed at first diagnosis and 8 weeks after the initiation of treatment. Patients who still showed more than 10 white blood cells (WBCs)/high power field (HPF) 8 weeks after the treatment were categorized to group A. Group B patients were less than 3 WBCs/HPF. Group B was further subdivided into two groups according to the presence of symptoms after treatment; Bp (symptom-persisted) and Br (symptom-resolved). IL-1β, C3, C4, IgG were measured and the results were analyzed.
Results: There were significant differences in IL-1β level of the control group compared with group A, Bp and Br ($p<0.05$). Pre-treatment C3 level demonstrated lower in all four groups with statistical significance ($p=0.042$). Post-treatment C3 level also demonstrated significantly lower in groups Bp and Br, meanwhile, the level was higher than control group in group A ($p=0.048$). However, there were no significant difference of C3 level between pre-and post-treatment within each group ($p>0.05$). C4 and IgG level did not show any significant differences between pre-and post-treatment within each group and compared with control group ($p>0.05$).
Conclusions: Elevated IL-1β in the group Bp suggests that chronic NBP patients who did not respond to treatment could be exhibiting a clinical manifestation of autoimmune reactions rather than an infection of external origin. We suggest that a more advanced diagnostic technique using cytokine at the initial stage of disease manifestation will be help clinicians avoid unnecessary antibiotic treatment and manage the disease more effectively.