

FACTORS INFLUENCING IN PROSTATE VOLUME REDUCTION IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA WITH OVER 5 YEARS OF TREATMENT

Hypothesis / aims of study

This study aimed to examine the factors that influence prostate volume reduction in patients who underwent treatment for over 5 years for benign prostatic hyperplasia.

Study design, materials and methods

Out of 135 patients who first underwent transrectal ultrasonography (TRUS) and received drug treatment for over 5 years, who underwent second TRUS 5 years later from 2010 to 2015 were divided into Five-Alpha Reductase Inhibitor (5ARI) Administration Group (Group A: 78 patients) and Alpha Blocker Administration Group (Group B: 57 patients). Based on their age at the beginning of each treatment, volume of prostate, serum PSA, International Prostate Symptom Score (IPSS), postvoid residual volume (PVR) and blood cholesterol, the changes in their prostate volume were compared 5 years after the treatment

Results

The mean value of average age, volume of prostate, serum PSA, IPSS, PVR and cholesterol of Group A and Group B were 69.8±16.8 vs 67.8±11.3, 42.9±39.2 cc vs 31.3±19.7 cc, 2.34±6.2 ng/ml vs 1.42±5.3 ng/ml, 22±10.2 pts vs 18±13.2 pts, 120±250 cc vs 85±180 cc, 196±151 mg/dL vs 188±118.2 mg/dL respectively, and the average change of prostate volume showed 19.2±14.5% in Group A, whereas Group B showed 9.2±10.2% increase. When Group A was divided based on the age at the time of diagnosis in Group A into 50s (n=15), 60s (n=38), and over 70s (n=25), the reduction in prostate volume was 18.5%, 25.9% and 19.4% respectively, displaying no significant difference (p=0.214); when divided based on prostate volume into 31-40cc (N=11), 41-60cc (N=37), and 61-80cc (N=30), the reduction of prostate volume was 14.2%, 23.4% and 27.1% respectively, so when the prostate volume was larger at the time of diagnosis, more volume decreased (p< 0.001). Prostate volume reduction based on serum PSA, IPSS and PVR did not show a significant difference. When divided into Below 200 mg/dL (N=21), 200-239 mg/dL (N=42), and Above 240 mg/dL (N=15) based on cholesterol level, the reduction of prostate volume was 24.2%, 22.3%, and 15.8% respectively, showing greater reduction as the cholesterol is lower (P< 0.045). In Group B, only high level of cholesterol displayed a statistically significant increase in prostate volume (P< 0.05).

Interpretation of results

Group of at least over 5 years of 5ARI administration reduced the prostate volume by 21.2% on average and group without the administration showed average of 9.2% increase in prostate volume, so considering that prostate volume increases as person ages, 5 years of 5ARI administration had a greater effect in reducing the prostate volume. Also, when the prostate volume is large and cholesterol is low at the time of 5ARI administration, greater prostate volume reduction can be expected.

Concluding message

Prostate volume reduction may be significantly associated with the 5ARI administration, prostate size and cholesterol level at the time of diagnosis.

Disclosures

Funding: NO **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics not Req'd:** retrospective study **Helsinki:** Yes **Informed Consent:** No