

ANALYSIS OF THE RELATIONSHIP BETWEEN BENIGN PROSTATIC HYPERPLASIA/LOWER URINARY TRACT SYMPTOMS AND TOTAL SERUM TESTOSTERONE LEVEL.

Hypothesis / aims of study

There is a growing interest in the possible relationship between hormonal serum levels, lower urinary tract symptoms (LUTS) and Benign Prostatic Enlargement (BPE). However few studies and mostly in Asian population have evaluated these associations. Aim of our study was to evaluate the association between hormone serum levels and LUTS/BPE in a group of Italian patients.

Study design, materials and methods

From 2009 onwards, a consecutive series of patients with LUTS related to BPE were prospectively enrolled. Patients were evaluated using the International prostatic symptom score (IPSS), ultrasound prostate volume assessment. Body mass index (BMI) as well as waist circumferences were measured. Blood samples were collected and tested for: PSA levels, testosterone, Sex Hormone Binding Globuline (SHBG), 17-Beta estradiol. We evaluated the association between hormone serum levels and LUTS/BPE using logistic regression analyses and Spearman correlation test.

Results

719 patients were enrolled with a mean age 67.2 ± 8 years; a mean PSA of 4.2 ± 3 ng/ml. Mean BMI was 27.5 ± 10 kg/m²; mean waist circumference was 101.2 ± 9.7 cm; median testosterone level (TT) was 4 ± 1.6 ng/ml; mean SHBG was 45 ± 18 ; mean 17-beta estradiol (17BE) was 231 ± 12 ; mean IPSS was 10 ± 6.7 ; mean prostatic volume was 54 ± 28 ml. Overall 554 (77.1%) patients were eugonadal (TT > 3 ng/ml) with an IPSS > 7 in 334 (60%) patients and 165 (22.9%) were hypogonadal (TT < 3 ng/ml) with an IPSS > 7 in 101 (61%) patients ($p = 0.856$). Hypogonadal patients presented a higher BMI and a higher waist circumference when compared to eugonadal patients ($p = 0.001$). Overall 41/165 (24.8%) patients were obese in the hypogonadal group and 93/554 (16.7%) in the eugonadal group ($p = 0.022$). No significant correlation were observed between hormone serum levels and IPSS or prostate volume. On logistic regression, hypogonadal status was not associated with a worst IPSS or a larger prostate volume (OR: 1.015; CI: 0.654-1.576; $p = 0.946$ for IPSS > 7 and OR: 0.844; CI: 0.532-1.338; $p = 0.470$ for prostate volume > 40 ml).

Interpretation of results

In our single center study, hormone serum levels were not associated with LUTS or BPE. Hypogonadal patients were not at higher risk of LUTS or BPE although they were obese and consequently presented a higher prostatic inflammation.

Concluding message

Further studies should better investigated the role of hormone serum level in the development and progression of LUTS and BPE

References

1. Finasteride for prostatic disease: an updated and comprehensive review. De Nunzio C, Miano R, Trucchi A, Finazzi Agrò E, Tubaro A.
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Disclosures

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