

The relation between serum prostate specific antigens values and serum testosterone level in health men

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Abstract:

Background:

PSA is present in small quantities in the serum of men with healthy prostates, but is often elevated in the presence of prostate cancer or other prostate disorders. Prostate epithelium which is under direct effect of dehydroepiandrosterone (DHEA), which is a metabolite of testosterone, secrete PSA, there is a known relation between testosterone and PSA in case of prostate cancer, in which there is increase in level of PSA. Thus, it is logically to expect relation between testosterone level and PSA value which is the most common marker for prostate cancer, When the PSA below 4 ng/ml .

Objectives:

To evaluate the relationship between the levels of total testosterone and total prostate specific antigen (PSA) in men with PSA values < 4ng/ml in North West Bank, and also to see relation of PSA and testosterone changes with age.

Material and Methods:

A cross sectional study was conducted, the study comprised 388 participants with mean age 51 ± 6 years (yr) who visited outpatient urology clinics between January 2013 and June 2013. The men were divided into two subgroups; men with PSA ≤ 2.5 (group I, 361 men), men with PSA values > 2.5 ng/ml (group II, 27 men). The relationship between levels of PSA and testosterone were investigated in both groups and in men as whole.

Results:

In all sample the mean value for serum PSA values and total testosterone level were 1.1 ± 0.8 ng/ml and 3.8 ± 2.3 ng/ml respectively.

No correlation was detected between serum PSA and testosterone levels neither in the subgroups (group I, $r = 0.06$, $p = 0.24$, group II, $r = 0.24$, $p = 0.21$) nor in men as a whole ($r = 0.05$, $p = 0.34$). There is significant positive relation between PSA and age ($r = 0.2$, $p < 0.01$) and significant negative relation between Testosterone and age ($r = -0.29$, $p < 0.01$).

Conclusions:

No impact of testosterone hormone on PSA level in men with PSA < 4 ng/ml. Therefore, high serum testosterone level may not mandate adjustment of PSA values. Serum sex hormone

showed significant decrease of testosterone with age after 40 years. Further studies including larger number of people should be carried out to confirm the findings of this study.