

VALUE OF TOTAL TESTOSTERONE AND TOTAL TESTOSTERONE/TOTAL PSA RATIO IN THE DIFFERENTIATION OF PROSTATIC PATHOLOGIES

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Previous studies about the association of prostate cancer (PC) with serum total Testosterone (tT) are conflicting, none evaluate patients with prostatitis or high grade prostate intraepithelial neoplasia (HGPIN) as individual groups, none had samples bigger than 600 patients, and some suffer from limited challenged bias.

We evaluated tT as a diagnostic tool for PC, using a large sample of patients with increased risk of PC and presenting different prostatic pathologies.

We consecutively enrolled 1577 candidates referred to ultrasound guided trans-rectal prostate biopsy in S. João Hospital (median tPSA: 7.0ng/mL). Groups were compared using Kruskal-Wallis test, correlations evaluated by Spearman coefficients and diagnostic capability estimated by ROC analysis.

No difference was observed when comparing tT levels between prostatic biopsy pathologies (median: 4.26 vs. 4.44 vs. 4.31 vs. 4.16 pg/mL, respectively; p=0.58). The tT level were the same in prostatic cancer and benign pathology (median: 4.25 vs. 4.25 pg/mL, respectively; p=0.97). No correlations were observed between tT and age, tPSA, or f/t PSA ratio. Considering ROC analysis tT/tPSA ratio is a better diagnostic test than tT alone (AUC of 0.62 (95%CI: 0.59-0.65) vs. 0.51 (95%CI: 0.48-0.53)), but worse than f/t PSA ratio (AUC: 0.70 (95%CI: 0.67-0.73)). In PC patients the tT levels were not significantly different across Gleason score groups. Results were similar if we only considerer patients with PSA < 4 ng/mL.

These results indicate that tT serum values were similar between patients with different prostatic diagnosis. The f/t PSA ratio still was the best diagnostic tool to help detecting PC.