

Cut-off Point Prostate-Specific Antigen and Prostate-Specific Antigen Density in Prostate Cancer - Suspected Patients in Makassar, Indonesia

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Abstract

Background: Prostate-specific antigen (PSA) is a test performed to detect prostate cancer. Currently, no rational standard exists for its cut-off point, which results in increased patients due to prostate biopsy complications. Therefore, this study aimed to determine the estimated PSA cut-off point and PSA density (PSAD) in patients with suspected prostate cancer (CaP) in Makassar.

Methods: The study sample was patients with benign prostatic hyperplasia (BPH) and cancer of the prostate (CaP) in Makassar, Indonesia. Statistical tests were performed with the Mann-Whitney U, Chi-Square, Fisher's Exact, and ROC tests (significance $p < 0.05$) with a retrospective research type.

Results: 470 samples were obtained from BPH (88.3%) and CaP (11.7%) patients ranging from 40 to ≥ 80 years old. Patients were found at 60-79 years (70.8%) with LUTS symptoms (66%), hematuria (10.6%), urinary retention (42.1%), and US prostate volume ranging from 30-50ml, examination of rectal toucher (RT) BPH 84.3% and CaP 96.4% for assessment of prostate consistency, PSA BPH (14.82 ng/ml) and CaP (48.10 ng/ml), PSAD BPH (0.28 ng/mL²) and CaP (1.19 ng/mL²). These values can predict histopathology results ($p < 0.05$) on US volume, risk factors for type II DM, hypertension ($p > 0.05$) can predict histopathology results.

Conclusion: The average CaP PSA was 48.10 ng/ml with 18.62 ng/ml cut-off point, and PSAD CaP was 1.99 ng/mL² with 0.53 ng/mL² cut-off point, which was higher than in Chinese and American samples.

Key words: benign prostatic hyperplasia, prostate cancer, prostate-specific antigen, PSAD