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Relationship between Serum prostate specific antigen and prostate sonography in asymptomatic Ugandan adult males attending a tertiary hospital

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Prostate cancer is the second leading cause of cancer deaths (after lung cancer) in men at about 20.1 per 100,000 men per year. Serum prostate-specific antigen (PSA) levels may be used to screen men at risk of prostate cancer, while prostate sonography determines prostate volume (PV) and detects nodule. Hypoechoic nodules in the peripheral zone are diagnostic for prostate cancer in over 50% of cases.

Ugandan adult males without lower urinary tract symptoms (LUTS) underwent Serum PSA determination and transrectal ultrasound. Association between PSA levels and PV was assessed using Spearman's correlation coefficients (X).

A total of 277 men were studied. The median PSA level was 1 (95% CI: 1-2). 78.3% of participants had PSA levels ≤ 4 ng/ml. The median sonographic PV was 26 (95% CI: 26-29) mls. Both PSA levels and PV progressively increased with age from 0.9ng/ml and 22mls in the 30-39 year age group to 7ng/ml and 38mls in the 60-69 year age group, respectively. PSA levels weakly correlated with PV ($\boxtimes = 0.27$). 47% of participants had prostatic nodules. Of these, 77% of them had features of benign nodules and 23% had suspicious nodules for prostate cancer. The median (range) serum PSA level in those with nodules was 2.0 (0.1 – 16.0) ng/ml and for those without nodules was 1.1 (0.1 – 8.0) ng/ml.

PSA has a weak direct correlation with PV and not a reliable marker for the prediction of presence or absence of prostatic nodules in asymptomatic adult males. Therefore PSA should be interpreted with age prostate sonographic findings.

Biography

Dr. Okuja Maxwell completed Masters of Medicine in diagnostic Radiology from Makerere University College of health sciences, Kampala Uganda, in 2020 and currently a radiologist at Mulago Specialized Women and Neonatal hospital, Kampala, Uganda.

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