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RP 16

Correlation between prostate specific antigen levels and Gleason sum score in a cohort of patients with prostate cancer

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Introduction: Serum prostate-specific antigen (PSA) is widely used in the diagnosis and follow-up of patients with prostate cancer worldwide. The Gleason grading system for prostate cancer is used in therapeutic decision-making and as a prognostic tool. Only a few studies regarding the correlation of the PSA value and the Gleason score are available in the literature.

Objective: To assess the correlation between serum PSA value and the Gleason score in a cohort of prostate cancer patients.

Methodology: This was a retrospective analytical study. All transrectal ultrasound guided (TRUS) biopsies reported at the Colombo North Teaching Hospital during 2017-2020 were included, and the relevant PSA levels and histological findings were obtained from the departmental records. The Spearman correlation coefficient was used to assess the correlation between PSA and the Gleason score.

Results: Out of 341 patients included in the study, 112 patients (32.8%) had prostate cancer (age range 26-90, mean= 69±7.9 years). Serum PSA levels ranged from 0.5 to 9930 ng/ml with a mean of 109.7±611.9 ng/ml. The mean PSA value for benign prostatic conditions was 28.3ng/ml and for malignant patients was 276.3ng/ml. Mean PSA values for Gleason score 6 was 20.1±18.8ng/ml, score 7- 99.4±172.9ng/ml, score 8- 178.5±281.3ng/ml, score 9- 391.7±786.8ng/ml and score 10 was 1571±3686.95ng/ml. There was a moderate positive correlation between the PSA and the Gleason score (Spearmen correlation coefficient □ - +0.516).

Discussion and conclusion: This study shows a moderate positive correlation between the PSA value and the Gleason score. Therefore, the PSA value of the patient can be used to predict the prognosis even before the biopsy results are available.

Keywords: prostate, prostate-specific antigen, transrectal ultrasound-guided biopsy, Gleason score

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