DOI: https://doi.org/10.4038/jdp.v17i2.7839
Abstracts of Research Papers
Annual Academic Sessions 2022

Journal of Diagnostic Pathology 2022;17(2):27.

Research paper 14

RP 14

Correlation of prostate specific antigen values with tumour burden in prostate cancer biopsies

P.G.A.N. Jayathilaka[1], M.A.D.N. Munasinghe[1], S.M. Fernandopulle[1], S.J. De S. Hewavisenthi[2]
[1]*Department of Histopathology, Colombo North Teaching Hospital, Sri Lanka*
[2]*Department of Pathology, Faculty of Medicine, University of Kelaniya, Sri Lanka*

Introduction: Tumour burden is an important predictive factor in the outcome of prostate cancer. This is calculated histologically using several methods including, the total percentage of cancer (method I), the greatest percentage of cancer in any one core (method II) and the number of cores involved (method III).

Objective: To assess the correlation between prostate specific antigen (PSA) level and tumour burden calculated using the three methods outlined above.

Methodology: All TRUS biopsies performed at Colombo North Teaching Hospital during 2017-2020 were included (n=341). PSA levels were retrieved from departmental records and the H&E-stained slides were obtained to calculate the tumour burden using each of the three methods separately. The Spearman correlation coefficient was calculated for each of these methods to determine the correlation between the PSA level and tumour burden.

Results: The mean tumour burden was 52.6% (SD-32.0) in the method I, 78.4% (SD-28.0) in method II and 72.0% (SD-30.2) in method III. The maximum tumour burden was 100% using all three methods. Minimum tumour burden was 1%, 6% and 17% using methods I, II and III, respectively. Spearman correlation coefficient for PSA against tumour burden using the method I was +0.528, method II was +0.363 and method III was +0.533.

Discussion and conclusion: There is a positive correlation between the PSA level and tumour burden. Method I and III showed a stronger positive correlation between PSA and tumour burden than method II. In method I, all areas of tissue submitted were assessed in determining the tumour burden, but in method III one core was considered positive even when a small area of the tumour is present. Hence, the method I could be deemed more histologically accurate.

Keywords: prostate, prostate specific antigen, transrectal ultrasound, tumour burden

---

Corresponding author: Dr Amali Jayathilaka
Department of Histopathology,
Colombo North Teaching Hospital, Sri Lanka
amalinijaya@gmail.com