

# **IMMUNOHISTOCHEMICAL EXPRESSION OF CYCLIN D1 AND KI 67 IN PREMALIGNANT AND MALIGNANT PROSTATIC LESIONS**

**Thesis**  
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**BY**

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# ABSTRACT

- **Background:** Prostatic carcinoma is a common and growing public health problem. Tumor grade is one of the most important prognostic factors of prostate cancer. At present, adequate prognostic markers for prostate cancer progression are still lacking, in spite of intensive investigation. Accordingly, we studied the expression of Cyclin D1 and Ki-67 in various prostatic lesions and correlated their expression with age, preoperative serum PSA and gleason score.
- **Materials and Methods:** A total of 50 cases including 25 cases of prostatic carcinoma, 10 of PIN and 15 of BPH were studied. Tumor grade was determined according to Gleason's grading system. Cyclin D1 and Ki-67 expressions were determined by IHC staining.
- **Results:** In cancer Cyclin D1 was expressed in 23 of 25 (92%) cases, in PIN it was expressed in 8 of 10 (80%) cases while in BPH it was expressed in only 3 of 15 (20%) cases. Ki-67 was expressed in 20 of 25 (80%) cancer cases, in PIN it was expressed in 7 of 10 (70%) cases while in BPH it was expressed in only 1 of 15 (6.7%) cases. Both Cyclin D1 and Ki-67 were significantly up-regulated in cancer cases as compared to BPH cases ( $p < 0.001$ ). No significant correlation was found between the intensity of Cyclin D1 expression and gleason score whereas a statistically significant correlation was observed between the intensity of Ki 67 expression and gleason score ( $P < 0.001$ ). In our study a statistically significant positive correlation was observed between Cyclin D1 and Ki-67 expression in cancer group, PIN group and BPH group with p value 0.03, 0.001 and 0.04 respectively.
- **Conclusions:** Cyclin D1 and Ki 67 may be helpful in distinguishing between BPH and carcinoma of the prostate. Cyclin D1 plays an important role in the pathogenesis and evolution of prostate cancer rather than the prognosis, thus Cyclin D1 is not a reliable prognostic factor in cancer prostate. Ki-67 can be used as a prognostic factor for prostatic carcinoma.
- **Key words:** Cyclin D1- Ki-67 -Prostatic carcinoma.