

Immunoexpression of Retinoblastoma Protein in Urothelial Carcinoma of Urinary Bladder



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Introduction

Retinoblastoma (RB; encoded by *RB1*) is a tumor suppressor that is frequently disrupted in tumorigenesis and acts in multiple cell types to suppress cell cycle progression. Many studies showed the association of RB tumour suppressor gene with different stages of bladder cancer and different topographic patterns.

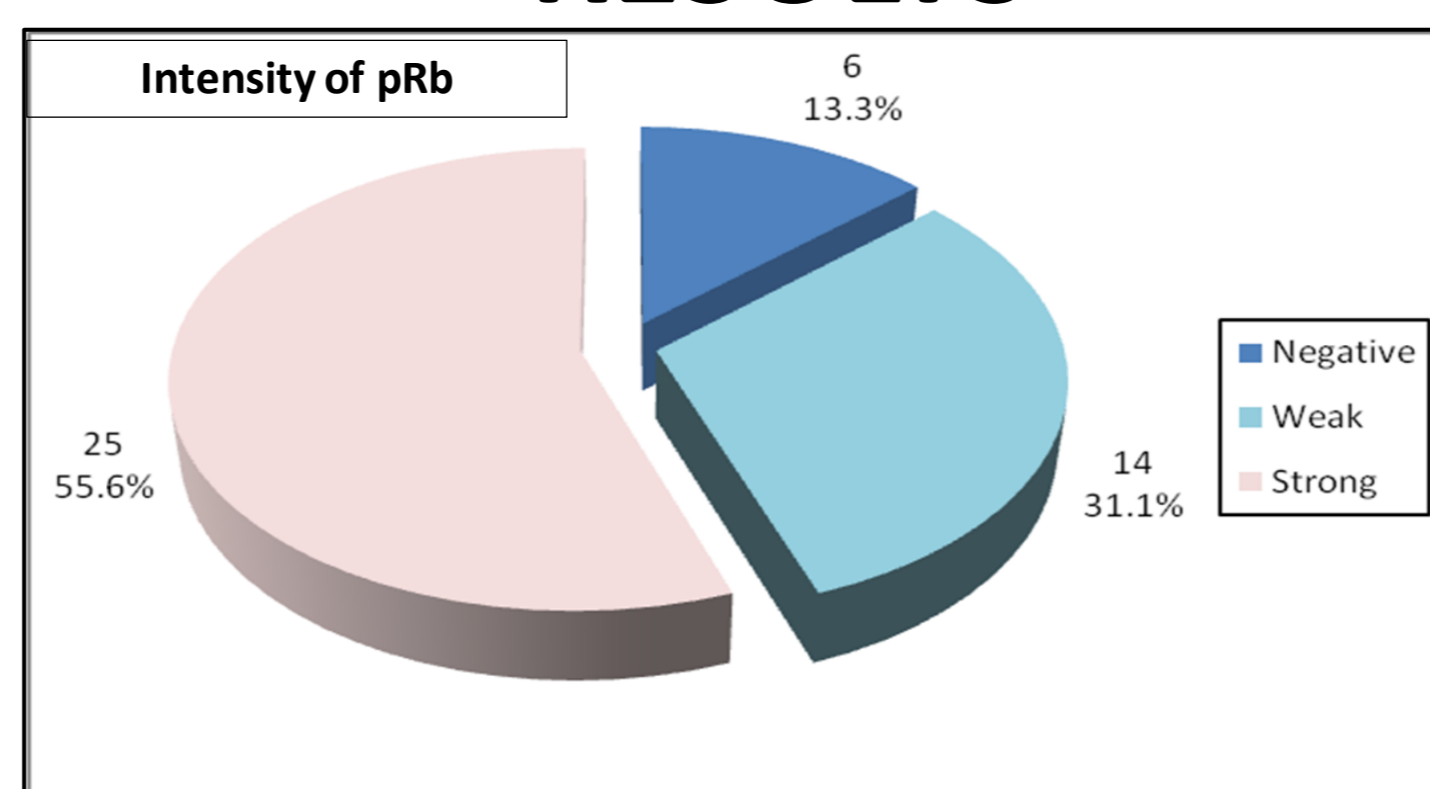
OBJECTIVES: The study was performed to determine the immunoexpression of pRb in primary transitional carcinoma cell carcinoma (TCC) of urinary bladder and its association with different histological grades

METHODS: Mouse monoclonal antibody against human IF8, Ig G₁ (Santa Cruz Biotechnology, Inc) was used for immunohistochemistry on formalin fixed paraffin embedded tissue sections.

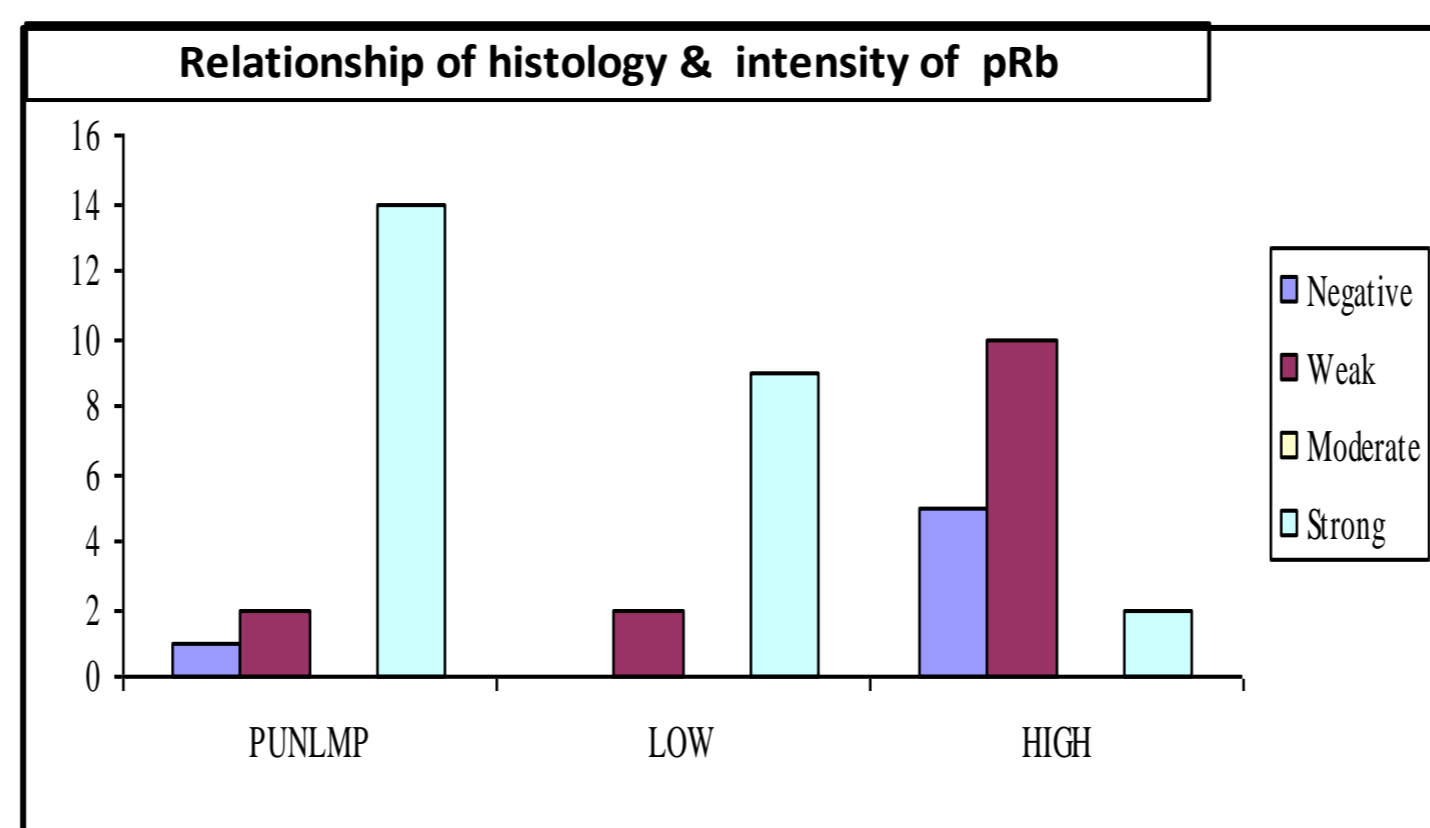
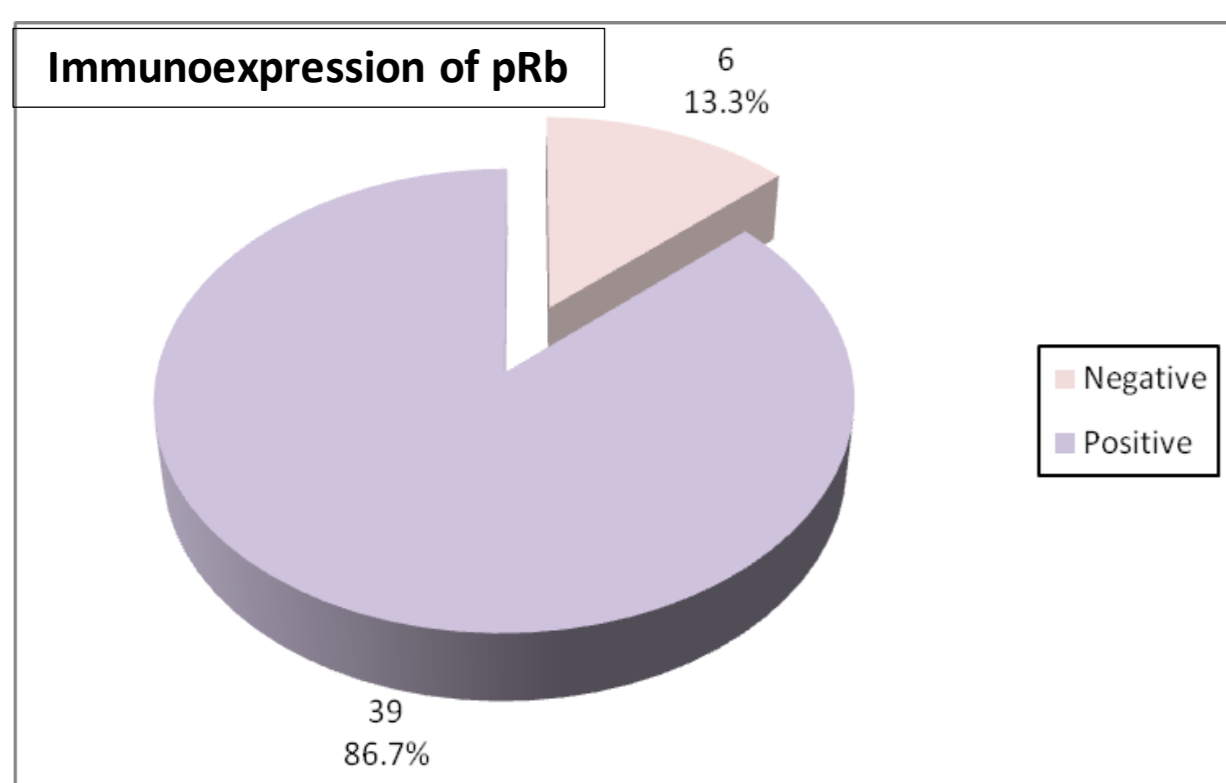
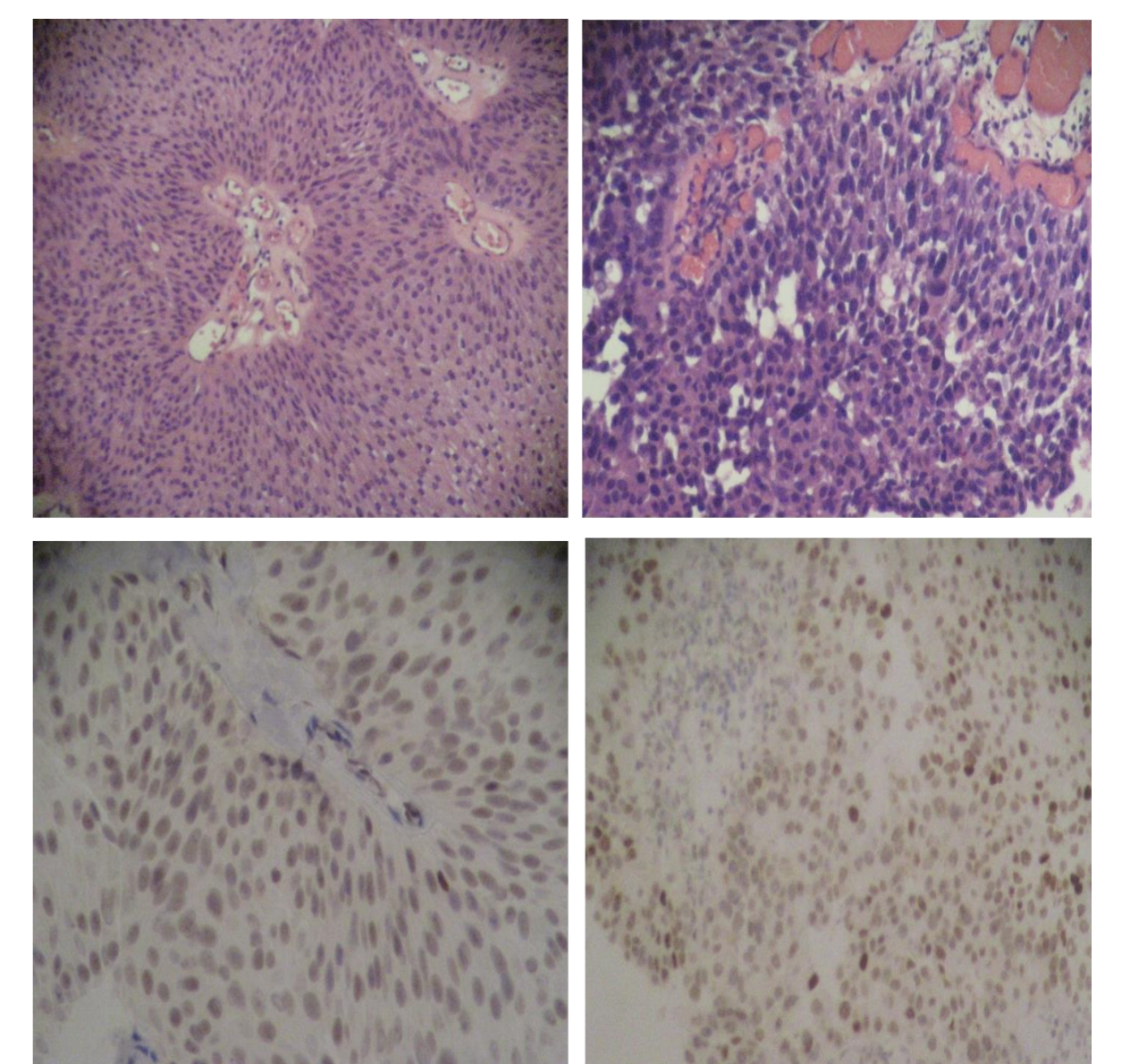
Immunoreactivity was classified based on the percentage of tumour cell nuclei with positive staining: negative = no immune-reactive cells, weak = 1 - 50% of tumour cells showing nuclear reactivity, strong = >50% of tumour cells showing nuclear reactivity.

RESULTS

Histological Grade	No. of cases	Percentage
Papillary Urothelial Tumour of low malignant potential	17	37.8%
Urothelial carcinoma, low grade	11	24.4%
Urothelial carcinoma, High grade	17	37.8%



IMMUNOHISTOCHEMISTRY OF pRb



Discussion

Positive immuno-expression and strong immunoexpression was observed with lower grades. Negative or weak immunoexpression was observed with higher histological grades. Cordon et al and Wright et al showed Rb protein expression was found in 81% and 82% of cases respectively in their study. pRb immunoexpression has an inverse relationship with histological grades in transitional cell carcinoma of the urinary bladder. Intensity of pRb expression was well correlated with histological grades of transitional carcinoma of urinary bladder. Strong pRb expression was seen in 82.4% of histological grade I (14 out of 17) and negative or weak expression was seen in histological grade III (15 out of 17). These data suggest that pRb expression plays an important role in the genesis of bladder cancer and has an inverse relationship with histological grades.

Conclusion

Knowledge of the biologic roles and the effects of these genetic changes may potentially aid clinicians in predicting the clinical outcome such as recurrence and survival rate, as well as the response of individual patients to treatment.

References

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