

Telomerase RNA expression and DNA ploidy as prognostic markers of prostate carcinomas

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ABSTRACT

Aims and background. The objective of this study was to determine whether there was a correlation between telomerase RNA expression and DNA ploidy status with clinicopathological parameters and biochemical recurrence after radical prostatectomy.

Study design. Telomerase RNA expression and DNA ploidy were evaluated in imprint smear samples obtained from 112 prostates after radical prostatectomy. The results were correlated with pathological stage, Gleason score and serum PSA.

Results. Positive telomerase RNA expression was detected in 67.8% of prostate carcinomas. The multiple linear regression model showed a statistically significant increase in telomerase RNA expression with increased Gleason score ($P < 0.0001$) and preoperative serum PSA values ($P = 0.0125$). DNA ploidy status also varied significantly with Gleason score ($P < 0.0001$) and preoperative serum PSA values ($P = 0.0110$). Five patients with diploid tumors and negative telomerase RNA expression developed a recurrence. However, recurrence was associated with DNA aneuploidy ($P = 0.001$) as well as with high telomerase RNA overexpression ($P = 0.001$).

Conclusions. We conclude that telomerase RNA expression and DNA ploidy could be additional markers in the field of prognosis of prostate carcinomas.

Key words: DNA ploidy, prognostic factors, prostate adenocarcinoma, telomerase RNA.

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Received October 13, 2008;
accepted May 14, 2009.