



## Prognostic role of microRNA-100 in patients with bladder cancer

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**ABSTRACT.** We investigated the clinical significance and prognostic value of microRNA-100 (miR-100) in bladder cancer. Quantitative real-time polymerase chain reaction was used to analyze the expression of miR-100 in 92 pairs of human bladder cancer and adjacent normal tissue samples. Overall survival (OS) curves were plotted using the Kaplan-Meier method and were evaluated for statistical significance using a log-rank test. The significance of different variables with respect to survival was analyzed using the multivariate Cox proportional hazard model. The miR-100 expression level was significantly lower in bladder cancer tissues than in normal adjacent tissues (mean  $\pm$  SD:  $1.49 \pm 0.52$  vs  $2.79 \pm 0.59$ ,  $P < 0.05$ ). A low miR-100 expression level was correlated with tumor stage ( $P = 0.023$ ), tumor grade ( $P = 0.031$ ), and regional lymph node involvement ( $P = 0.16$ ). Kaplan-Meier analysis with log-rank test indicated that low miR-100 expression had a significant impact on OS (35.1 vs 75.3%;  $P = 0.004$ ). Multivariate analysis revealed that the miR-100 expression level was an independent prognostic factor for OS (HR = 2.768, 95%CI = 1.287-8.992;  $P = 0.009$ ) in bladder cancer patients. The present study demonstrated that the downregulation of miR-100 was associated with advanced clinical features and poor prognosis for bladder cancer patients, suggesting that

miR-100 downregulation may be used as an unfavorable prognostic biomarker in bladder cancer.

**Key words:** Bladder cancer; MicroRNA-100; Prognosis; Biomarker