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 ± SD: 1.49 ± 0.52 vs 2.79 ± 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