Prognostic significance of microRNA-10b overexpression in breast cancer: a meta-analysis

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ABSTRACT. Many microRNAs (miRNAs) exhibit altered expression levels in cancers, and they may be considered as valuable prognostic biomarkers for cancers. Here we aimed to summarize the recent advances in miR-10b involvement in human breast cancer and analyze the predicting role of miR-10b for survival. We searched, Embase, and Wanfang databases to identify studies on the prognostic role of miR-10b expression in breast cancer. A total of 770 patients from 7 eligible studies were included in the analysis. Pooled risk ratios (RRs) with 95% confidence interval (95%CI) were calculated to estimate the effect. Our results showed that high miR-10b expression in patients with breast cancer was significantly associated with poor disease-free survival (DFS) (RR = 1.53; 95%CI = 1.06-2.21; P = 0.02). However, no significant association between miR-10b and overall survival was found in overall studies. Subgroup analysis indicated that high expression of miR-10b was significantly correlated with DFS in Asia (RR = 1.71-5.05). The present meta-analysis demonstrated that high expression of miR-10b might predict poor survival in patients with
breast cancer. Larger clinical studies are required to further evaluate the role of miR-10b in clinical practice.

**Key words:** MicroRNA-10b; Breast cancer; Prognostic factor; Meta-analysis