



Expression and clinical significance of PIWIL2 in hilar cholangiocarcinoma tissues and cell lines

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ABSTRACT. The objective of this study was to explore the relationship between PIWI-like protein 2 (PIWIL2) and clinicopathological characteristics and prognosis after radical resection. To accomplish this, we analyzed PIWIL2 expression in hilar cholangiocarcinoma tissues and cell lines. PIWIL2 expression was detected by immunohistochemistry in 41 hilar cholangiocarcinoma samples and 10 control tissues. Western blotting and immunocytofluorescence were used to investigate PIWIL2 expression in the cholangiocarcinoma cell line QBC939 and the bile duct epithelial cell line HIBEpic. Univariate and multivariate survival analyses were performed using the Kaplan-Meier method for hilar cholangiocarcinoma patients who underwent radical resection. PIWIL2 expression was significantly higher in the hilar cholangiocarcinoma tissues and QBC939 cells than in control tissues and HIBEpic cells, respectively ($P < 0.05$). Poorly and moderately differentiated cholan-

giocarcinoma tissues had significantly higher PIWIL2 expression than well-differentiated tissues ($P < 0.05$). Univariate analysis demonstrated that high PIWIL2 expression was associated with shorter survival time after radical resection ($P < 0.05$). Multivariate analysis showed that PIWIL2 expression was an independent prognostic factor after radical resection of hilar cholangiocarcinoma ($P < 0.05$). PIWIL2 expression was also associated with tumor-node-metastasis stage and differentiation. PIWIL2 was an independent prognostic factor after radical resection of hilar cholangiocarcinoma.

Key words: Hilar cholangiocarcinoma; PIWI-like protein 2; Prognosis