

June 11- 13, 2018
Dublin, IrelandMei-Yin Su et al., Arch Cancer Res 2018, Volume 6
DOI: 10.21767/2254-6081-C1-006

SURVEY OF USEFUL BIOMARKERS FOR CLINICOPATHOLOGIC CHARACTERISTICS AND PROGNOSIS OF RENAL CELL CARCINOMA (RCC)

Mei-Yin Su¹, Jar-Yi Ho¹, Chia-Lun Wu², Cheng-Ping Yu¹ and Dah-Shyong Yu²¹National Defense Medical Center, Taiwan²Tri-Service General Hospital, Taiwan

Purpose: Renal cell carcinoma (RCC) is one of the most common kidney malignancies. The most common subtype of RCC is clear cell renal cell carcinoma (ccRCC), which accounts for 75–80% of all diagnosed cases. About 25–30% of ccRCC patients present with metastatic (mRCC) disease at the time of diagnosis. Although most patients with ccRCC, after surgical resection have a good prognosis, but 5-year overall survival of advanced RCC is only 10%. Several existing prognostic systems and models have been established with considerable prognostic ability, they still need to be improved. Previous studies have shown that the expressions of annexin A10, EphB4, RegIV are related to the prognosis of other cancers (colorectal cancer, prostate cancer, gallbladder carcinoma), but the correlations with RCC have not been clarified. Meanwhile, studies have shown that EphA2, Galectin-3, PBRM1, FOXO3, PD-L1 have correlation with the prognosis of RCC. This study is intended to screen for better biomarkers to provide further clinical accurate diagnosis of RCC.

Materials & Methods: RCC cell lines (ccRCC: TSGH-R-2011 and 786-O; mRCC: ACHN and Caki-1; papillary RCC (pRCC): A498) and normal renal cell line (HK-2) was used in this study. Q-PCR was used to analyze the mRNA expression between different cell lines. Then, Western blot and flow cytometry were used to verify the difference of expression between different cell lines. Finally,

the expression of four selected potential markers was evaluated by immunohistochemical (IHC) stain in 12 paired frozen normal and tumor tissue of RCC patients.

Results: In this study, the expressions of EphB4 mRNA and protein in mRCC cell line were significantly higher than ccRCC, pRCC and control in Q-PCR, WB and flow cytometry. The expressions of FOXO3 and PD-L1 proteins were slightly higher in all cell lines than control. The expressions of Galectin-3 mRNA and protein in pRCC cell line were significantly higher than ccRCC and control. FOXO3 has the highest expression rate (55%) in 12 paired tumor tissue of RCC. EphB4 has the highest expression rate (58%) in normal kidney tissue.

Conclusions: FOXO3 and EphB4 may be considered as useful biomarkers for diagnosis and prognosis in RCC patients.

Biography

Mei-Yin Su is a master student and studying about biomarkers of kidney cancer at Nation Defense Medical Center in Taiwan. Her research interest is to screen useful biomarkers for efficiently correlating clinicopathologic characteristics and prognosis of RCC.

drin1227@gmail.com