MP18-08: PAK1-mediated immune escape conferred by regulation of immune cells due to tumor-associated neutrophils recruitment and Galectin-9 secretion

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Conflict of Interest Disclosure

I have no potential conflict of interest to report

Introduction & Objectives:

This study proposed to evaluate the key function of PAK1-mediated immune escape in renal cell carcinoma

Materials & Methods:

Protein levels by IHC or ELISA in ccRCC tissue. PAK1 expression levels by WB in ccRCC cell lines. Prognostic value of p-PAK1, IL-8, CXCR1 expression in OS and RFS with KM survival curve, Cox regression models. Immune cell infiltration was evaluated by calculating the immune signature PAK1 expression with CIBERSORT method
Results:

The intratumoral PAK1 and p-PAK1 expressions correlated with clinical TNM stages \( (p < 0.001) \), targeted therapy survivals \( (p < 0.001) \), IL-8, Galectin-9 expression and local neutrophils infiltration.

Furthermore, IL-8 and CXCR1 were also shown to be an independent prognostic indicator for OS \( (p < 0.001 \text{ and } p=0.001) \) and RFS \( (p < 0.001 \text{ and } p=0.001) \) in ccRCC patients.

Using the LASSO model, PAK1 expression was negatively associated with CD8+ T cells and CD4+ T cells, and was positively associated with neutrophils in ccRCC patients.

We also found that advanced tumors tended to harbor higher Galectin-9 levels, correlated significantly with PAK1 levels.
Conclusions:

PAK1 signaling based biomarker could improve survival prediction, and pave the way to the clinical investigation and drug discovery based on PAK1-mediated immune targeted therapy in high-risk ccRCC patients.