

# The Evaluation of Cyto-reductive Nephrectomy in Patients With Synchronous Metastatic Clear Cell Renal Cell Carcinoma from a Single Center in China: Role of Blood Immunoglobulins and PD-L1 and VEGFR-2 Protein Expression



中国医学科学院肿瘤医院  
Cancer Hospital Chinese Academy of Medical Sciences

Jianzhong Shou, Weixing Jiang, Dong Wang, Xiaoqi Liu, Wei Zheng, Li Wen, Hongzhe Shi, Huijuan Zhang, Aiping Zhou, Changling Li, Jianhui Ma, Shan Zheng

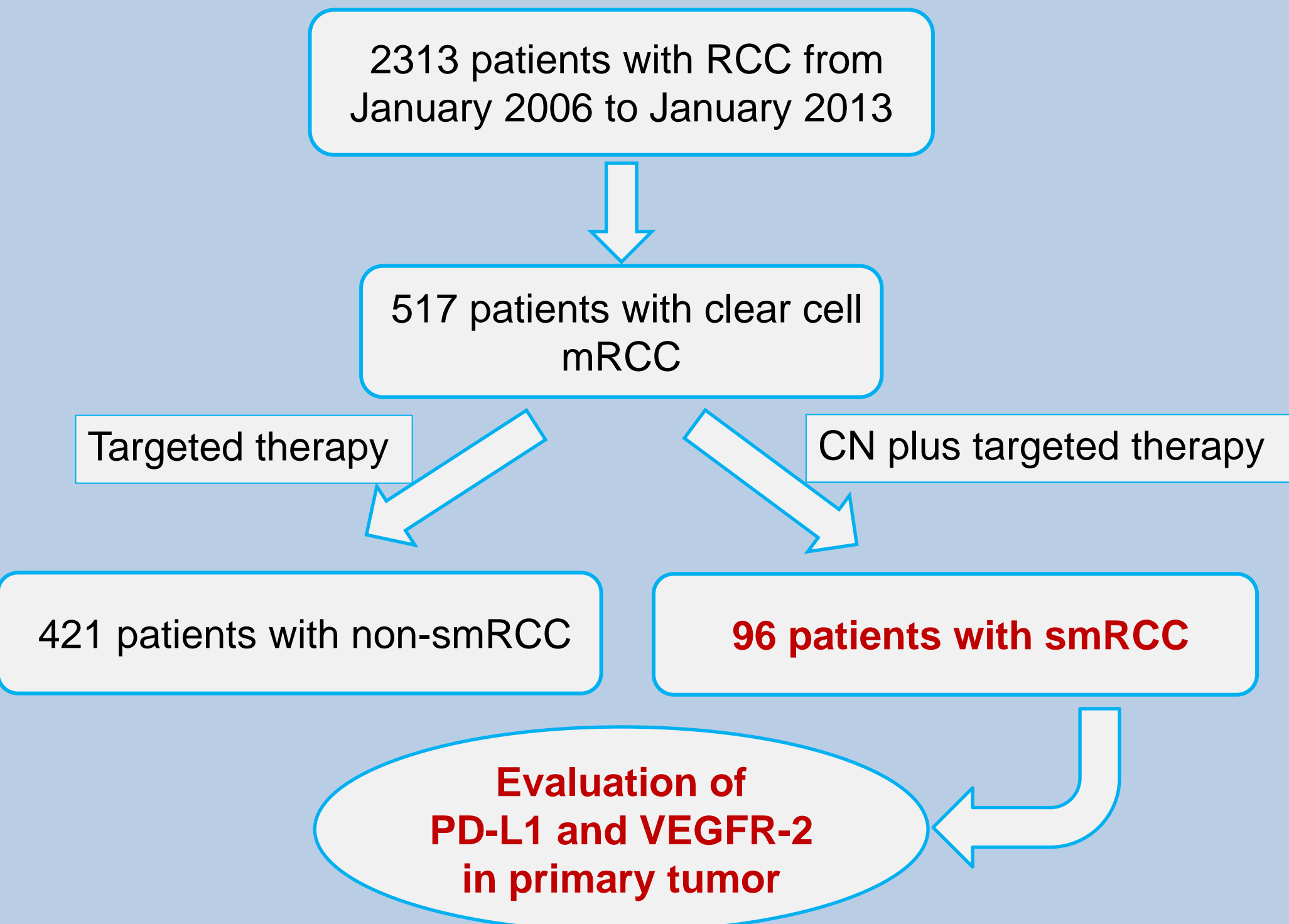
## New perspective of cyto-reductive nephrectomy in patients with intermediate risk

Some synchronous metastatic clear cell renal cell carcinoma (smRCC) patients in China with intermediate-risk disease benefited from cyto-reductive nephrectomy (CN) plus targeted therapy, and the outcomes may be correlated with the expression of PD-L1 and VEGFR-2 in primary tumor. In addition, high blood levels of immunoglobulins have the potential to predict the poor prognosis of patients with smRCC.

### Background

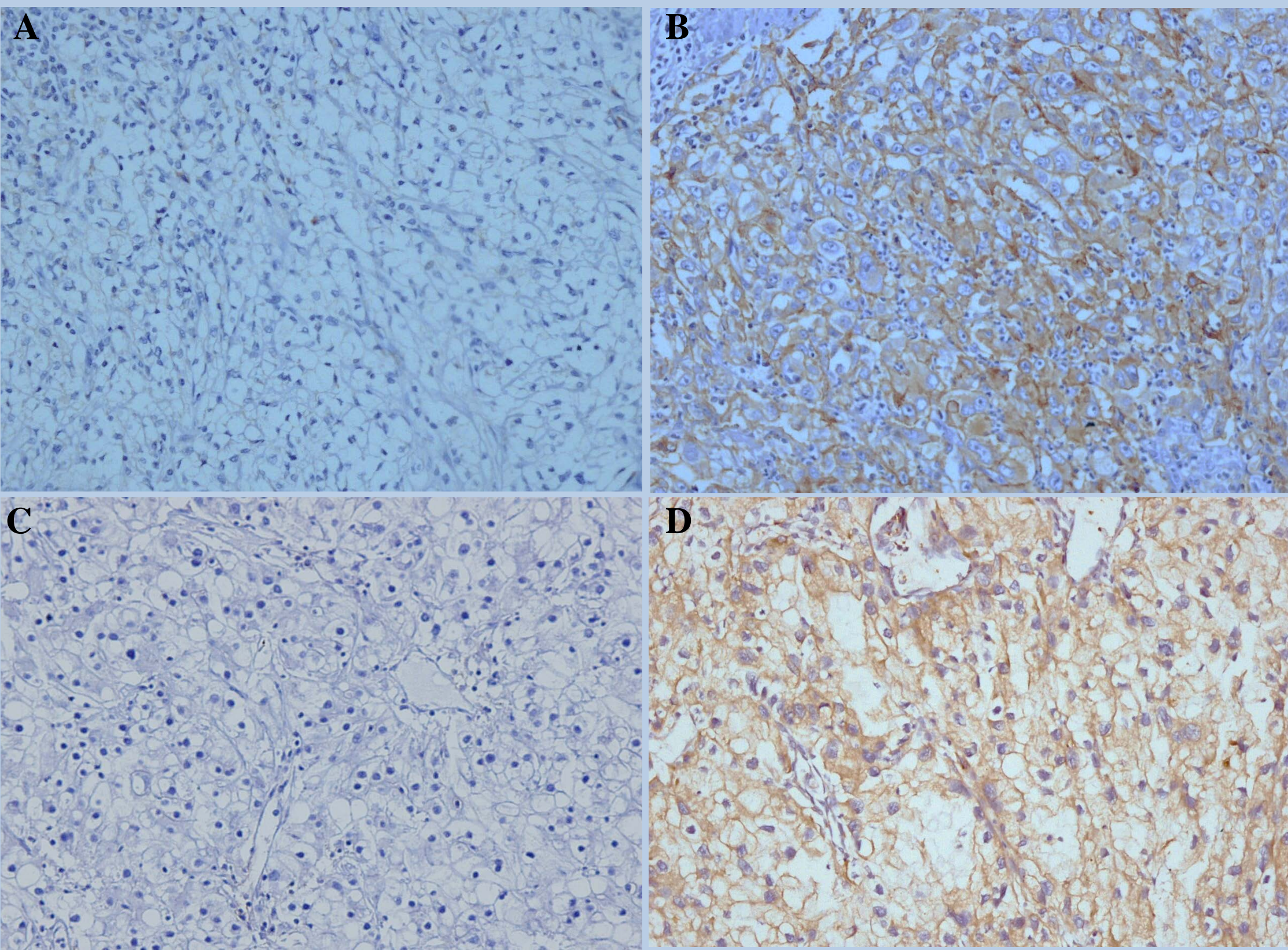
Previous studies have reported that CN is not suitable for patients with poor-risk smRCC. Whether some patients with intermediate-risk disease should undergo CN is still controversial, and there is a high demand for CN in China.

### Methods



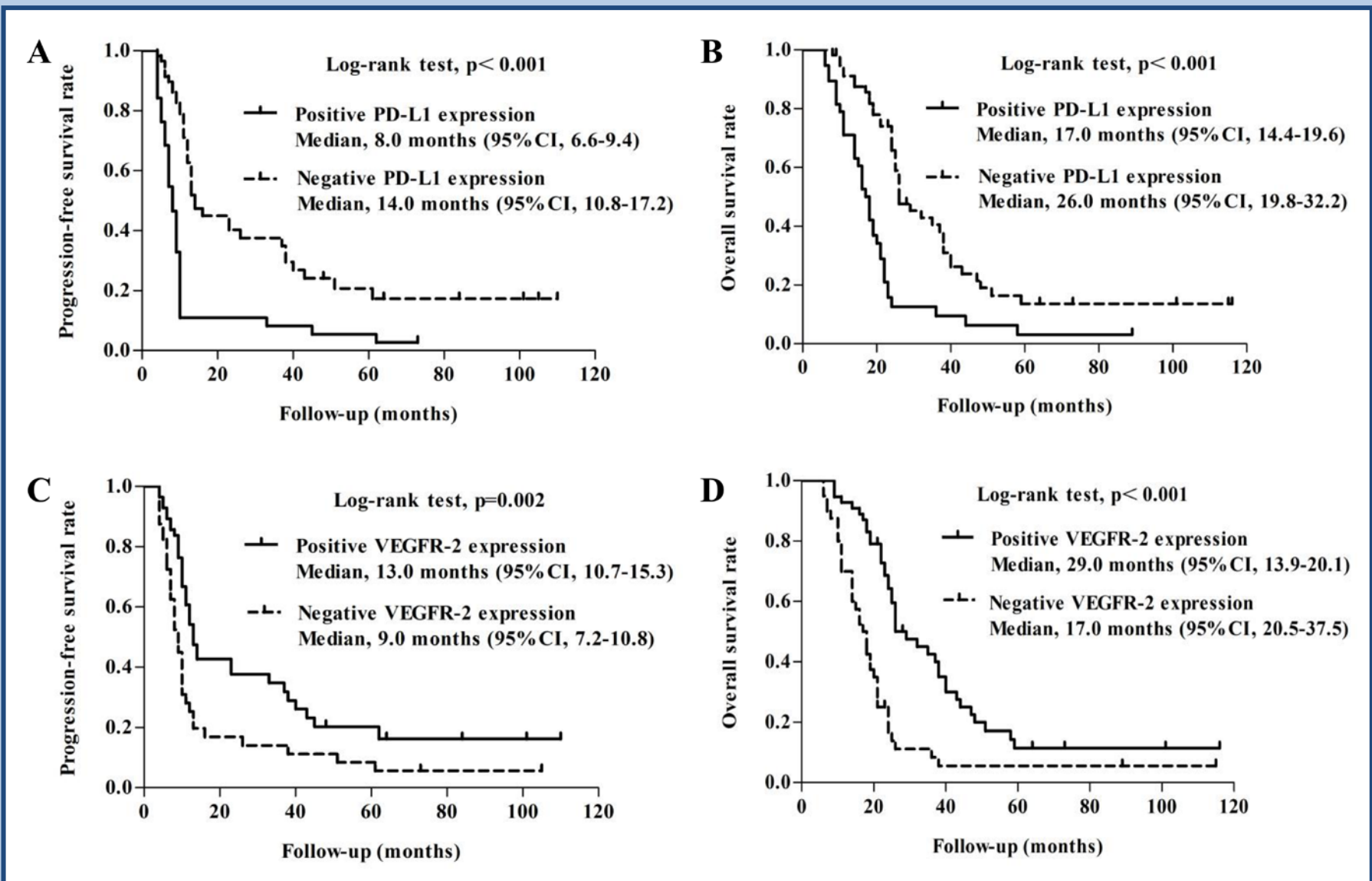
### Results

- PD-L1 and VEGFR-2 protein immunopositivity were observed in 39.6% (38/96) and 58.3% (56/96), respectively, of patients.



PD-L1 and VEGFR-2 expression in formalin-fixed, paraffin-embedded (FFPE) samples stained with anti-PD-L1 and anti-VEGFR-2 antibodies. (A) PD-L1-negative, (B) PD-L1-positive, (C) VEGFR-2-negative, and (D) VEGFR-2-positive. Original magnification,  $\times 200$ .

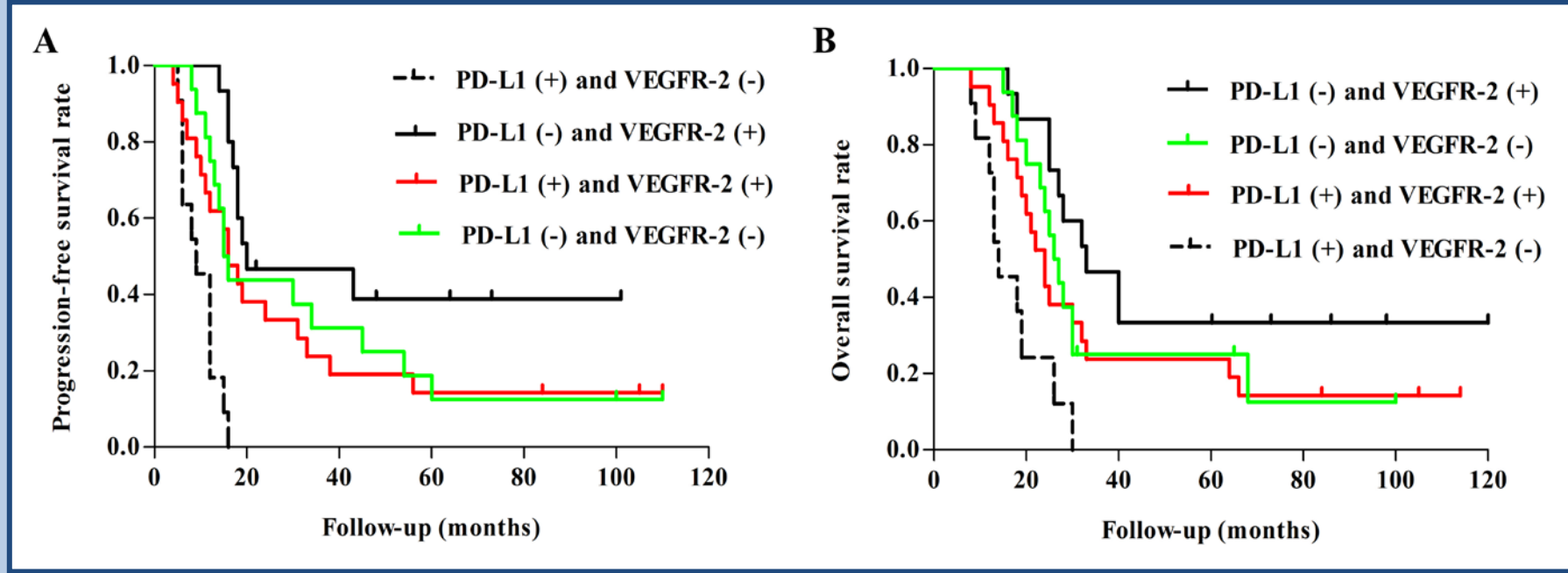
- The correlation between PD-L1 and VEGFR-2 expression and prognosis.



(A) and (B) PD-L1-positive patients had a shorter PFS (median, 8.0 vs 14.0 months) and OS (median, 17.0 vs 26.0 months) than PD-L1-negative patients ( $p < 0.001$ , for both). (C) and (D) VEGFR-2-positive patients achieved a longer PFS (median, 13.0 vs 9.0 months) and OS (median, 29.0 vs 17.0 months) ( $p = 0.002$  and  $p < 0.001$ ).

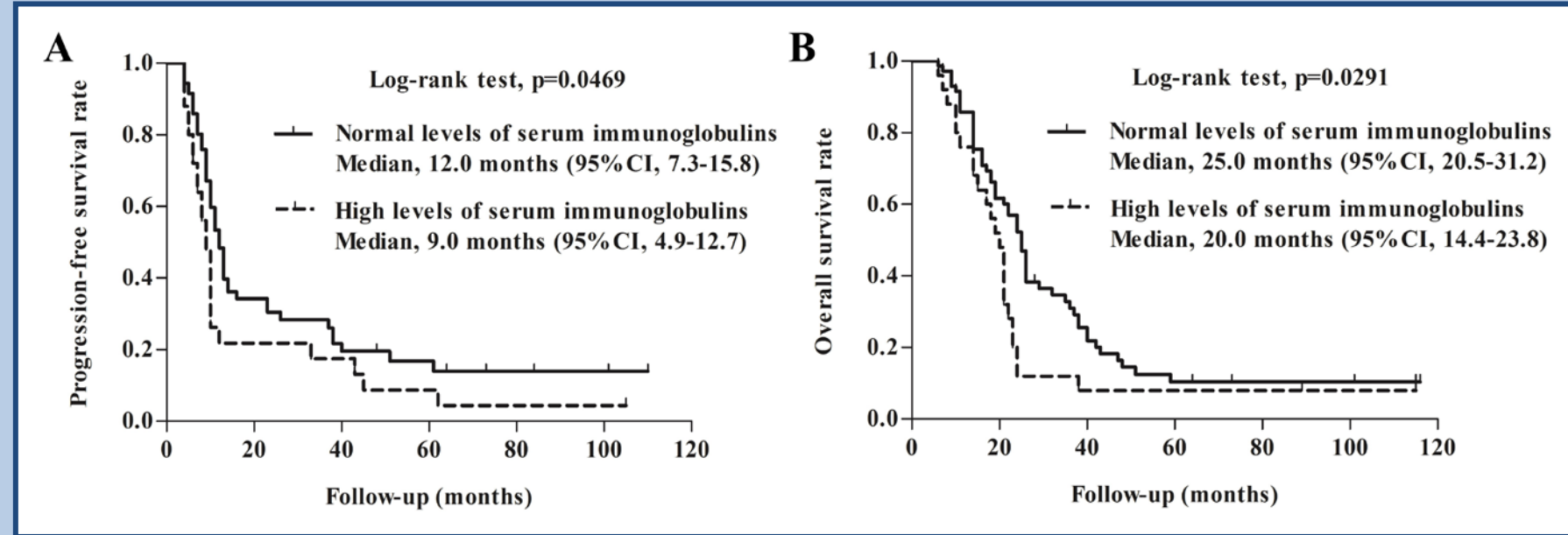
- The re-stratification of intermediate risk smRCC patients

- PD-L1 (+) VEGFR-2 (+)
- PD-L1 (+) VEGFR-2 (-)
- PD-L1 (-) VEGFR-2 (+)
- PD-L1 (-) VEGFR-2 (-)



Compared with PD-L1 (+) VEGFR-2 (-), PD-L1 (+) VEGFR-2 (+) and PD-L1 (-) VEGFR-2 (-) group, patients in the PD-L1 (-) VEGFR-2 (+) group had longer PFS (median, 20.0 vs 9.0, 16.0 and 15.5 months,  $p < 0.05$ ) and OS (median, 33.0 vs 14.0, 24.0 and 26.5 months,  $p < 0.05$ ).

- The role of blood immunoglobulins in patients with smRCC patients



- PD-L1-negative and VEGFR-2-positive patients with intermediate-risk disease who undergo CN may have a good prognosis. The combined detection of the PD-L1 and VEGFR-2 proteins in a primary tumor biopsy before treatment may be clinically significant for the selection of therapy in smRCC.
- High level of blood immunoglobulins was a potential blood marker for predicting poor prognosis of smRCC patients.

