Deciding between active surveillance versus surgery for patients with small renal masses is a challenge.

Kidney injury molecule-1 (KIM-1), shed into plasma from renal cell carcinoma cells, is a candidate circulating biomarker for renal cell carcinoma detection and risk stratification.\textsuperscript{1,2}

In the E2805/ASSURE trial, high KIM-1 after nephrectomy was associated with worse DFS and worse OS.\textsuperscript{3}

We sought to determine whether plasma KIM-1 can assist in the pre-nephrectomy risk stratification of patients with suspicious kidney masses.

**BACKGROUND**

The WHO/IARC K2 study prospectively enrolled adults with kidney masses at the N.N. Blokhin Russian Medical Research Center for Oncology Moscow from 2007-2012.

We measured plasma KIM-1 in banked plasma from 162 patients subsequently found to have ccRCC (cases) and 162 patients with benign renal masses (controls).

KIM-1 was measured using a microbead-based ELISA assay.

Patients were followed prospectively to determine clinical outcomes.

**METHODS**

Plasma KIM-1 distinguishes clear cell RCC vs benign renal masses

324 patients with kidney masses

Tumor pathology

Clinical outcomes

324 patients with kidney masses

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**RESULTS**

Higher plasma KIM-1 is associated with worse metastasis free survival and worse overall survival among patients with clear cell RCC

**CONCLUSIONS**

Pre-nephrectomy plasma KIM-1 helped distinguish between clear cell renal cell carcinoma vs benign renal masses.

Among patients with ccRCC, higher pre-nephrectomy KIM-1 was associated with worse MFS and OS.

Plasma KIM-1 may be useful for RCC detection alone or in combination with other biomarkers. Validation in additional cohorts is underway.

**REFERENCES**


