KIDNEY CANCER

Low serum sodium linked to poor outcomes for patients with mRCC treated with targeted therapy

Baseline hyponatraemia (serum sodium level of <135 mmol/l) is associated with poor overall survival, time to treatment failure (TTF), and disease control rate (DCR) in patients with metastatic renal cell carcinoma (mRCC) treated with targeted therapy, according to a recent analysis of data from the International Metastatic Renal Cell Carcinoma Database Consortium (IMDC).

“We explored the relevance of sodium as a prognostic marker because prior reports showed sodium to be an important prognostic factor for patients with mRCC treated with cytokines, it is a readily available lab test, and it has shown prognostic importance for some other cancers and medical conditions, such as cirrhosis and congestive heart failure,” says Toni Choueiri, who led the research.

Data was evaluated for 1,661 patients treated with first-line vascular endothelial growth factor (VEGF) or mammalian

target of rapamycin (mTOR) targeted therapy for mRCC at 18 cancer centres in Canada, the USA, Japan, South Korea, Singapore, and Denmark. In total, 14.6% of these patients had hyponatraemia at the initiation of targeted therapy.

Compared with patients with normal sodium levels, these individuals had significantly lower median overall survival (7.0 months versus 20.9 months), mean TTF (2.9 months versus 7.4 months), and DCR (55% versus 75%). Furthermore, just 4% of the patients with hyponatraemia had

a favourable risk profile, compared with 18% of healthy controls.

Several factors are thought to impair sodium homeostasis, including congestive heart failure, hypertension, diabetes, cirrhosis, adrenal insufficiency, hypothyroidism, and use of diuretics, steroids, antiepileptics, selective serotonin reuptake inhibitors, and alcohol.

“In the future, we plan to explore whether sodium correction has any benefit, and will attempt to understand the mechanism by which hyponatraemia affects outcomes in patients with mRCC,” Choueiri told *Nature Reviews Urology*.

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Original article Schutz, F.A. B. *et al.* The impact of low serum sodium on treatment outcome of targeted therapy in metastatic renal cell carcinoma: results from the international metastatic renal cell cancer database consortium. *J. Urol.* doi:10.1016/j.juro.2013.10.013