

## Newsworthy, Late-breaking Information From Sources, Professional Societies, and Government Agencies

**Immune-related AEs and Kidney Function Decline in Patients With RCCs Treated With ICIs**

A recent retrospective study of patients with renal cell carcinoma (RCC) and urothelial carcinoma reveals that a higher likelihood of developing a sustained decline in renal function while receiving immune checkpoint inhibitor (ICI). This study findings were published by Seethapathy H et al in *European Journal of Cancer*. Authors found that over the course of ICI treatment, 25% of the cohort developed acute kidney injury and 16% developed a sustained decline in renal function while baseline CKD and prior full nephrectomy were not associated with an increased risk of AKI and sustained eGFR loss. Authors conclude that irAEs may be a novel risk factor for kidney function decline among patients receiving ICIs. Furthermore, patients who experienced non-renal immune-related adverse events were more likely to develop a sustained decline in renal function. The higher likelihood of a sustained decline in renal function in patients with mRCC and its association with immune-related adverse events warrant the strategies to minimize the impact and also the need for identification of patient subgroups at risk for renal function deterioration.

This was a retrospective study evaluating the association between ICI use and acute and chronic kidney dysfunction in patients with RCC and urothelial carcinomas. A total of 637 patients received at least one dose of an ICI between January 2012 and December 2018. Authors indicated that compared to patients with urothelial carcinoma, patients with RCC were more likely to develop irAEs and sustained eGFR loss but not AKI. This study also found that among patients surviving at least 1 year who developed irAEs were at a significantly higher risk for sustained eGFR loss. Authors noted further study is warranted to understand and mitigate the long-term impact of ICI-associated effects on chronic kidney function in RCC patients and others for whom ICI therapies are standard.

*REFERENCE: Seethapathy H et al. Immune-related adverse events and kidney function decline in patients with genitourinary cancers treated with immune checkpoint inhibitors. Eur J Cancer 2021 Sep 2;157:50-58. doi: 10.1016/j.ejca.2021.07.031.*

**A Global Study Reveals More Informational Resources Needed for Patients and Caretakers of Patients With Renal Cell Carcinoma**

Patients and caretakers of patients with renal cell carcinoma (RCC) may lack adequate knowledge surrounding disease treatment, clinical trial enrollment, and the psychosocial impact of the cancer itself, according to the results from the global survey that were presented as a poster during ESMO Congress 2021.

The survey consisted of 35 questions focused on the diagnosis, management, and burden of RCC. It was distributed in 13 different languages to patients with kidney cancer and their caregivers between October 29, 2020, and January 5, 2021. The survey reached 2,012 (1,586 patients, 417 caregivers, 9 undisclosed) participants from 41 countries. “This survey results indicate opportunities to improve communication about diagnosis, psychosocial impacts, and clinical trials, as well

as biopsies, physical exercise, and patient engagement,” said Dr. Rachel H. Giles, chair of the International Kidney Cancer Coalition, and colleagues.

According to the survey, 42% of participants reported that the likelihood of surviving their cancer beyond 5 years was not explained, whereas 51% reported that they were involved as much as they wanted to be in developing their treatment plan. Fifty percent of younger-onset patients (< 46 years) did not know their tumor subtype and 56% experienced barriers to their treatment. Of the surveyed population, 74% took fewer than 3 months to obtain a correct diagnosis. Regarding clinical trials and perspectives on biopsies, 41% of respondents indicated that no one discussed cancer clinical trials with them, 46% had a biopsy and 3% said they were not willing to undergo an additional biopsy if asked.

For physical activity, survey results that 45% of respondents were insufficiently active and 55% said that they very often or always experienced a fear of recurrence.

*REFERENCE: Giles RH, Maskens D, Martinez R, et al. Patient-Reported Experience of Diagnosis, Management, and Burden of Renal Cell Carcinomas: Results from a Global Patient Survey in 41 Countries. Presented at 2021 ESMO Congress; September 16-21, 2021; Virtual. Abstract 671P*

**Inhibition of HDL cholesterol receptor SCARB<sub>1</sub> can kill or stop the proliferation of clear cell renal cell carcinoma**

The researchers at the University of Pennsylvania have found that inhibiting the HDL cholesterol receptor SCARB<sub>1</sub> can kill or stop the proliferation of clear cell renal cell carcinoma (ccRCC) cells highlighting the potential for a new way to treat the disease, according to findings published in *Cancer Discovery*.<sup>1,2</sup> The scientists found the health of these specific cancer cells and tumors are dependent upon cholesterol and SCARB<sub>1</sub> while also showing that medication that specifically targets the receptor could make it impossible for the cancer cells to survive and spread. “Previous studies demonstrated that SCARB<sub>1</sub> and cholesterol were both part of the story of ccRCC, but our work here shows a causal role,” lead study author M. Celeste Simon, PhD, Arthur H. Rubenstein, MBBCh, professor in the department of Cell and Developmental Biology, Perelman School of Medicine, and scientific director of the Abramson Family Cancer Research Institute, stated in press release. “My colleagues and I hope these investigations at the bench can translate to new and successful SCARB<sub>1</sub> inhibitors and treatments for people facing this aggressive cancer.”

According to the research team, additional studies now need to be conducted to examine the efficacy and safety of using SCARB<sub>1</sub> inhibitors, such the investigational agent ITX-5061, in patients with ccRCC. “This study [also] suggests a causative relationship between obesity, BMI, and circulating HDL cholesterol and likelihood of developing ccRCC that can be further investigated,” according to the press release.

*REFERENCE: Riscal R, Bull CJ, Mesaros C, et al. Cholesterol auxotrophy as a targetable vulnerability in clear cell renal cell carcinoma [published online ahead of print July 8, 2021]. Cancer Discov. doi: 10.1158/2159-8290.CD-21-0211*

#### 4-gene expression signature Correlates with Outcomes in Metastatic Renal Cell Carcinoma Patients Treated with Everolimus

In a retrospective analysis of prospective trial data, a four-gene signature was determined to have prognostic value for using everolimus alone or with BNC105P. Overall, this represents the first transcriptomic signature that correlates with clinical benefit in mRCC patients treated with everolimus. Authors indicated if further validated, this signature could be useful in patient selection for mTOR inhibitors after VEGF TKIs or immune checkpoint inhibitors. Although the mTOR pathway has long been regarded as a promising therapeutic target in renal cell carcinoma, randomized clinical trials on mTOR inhibitors such as temsirolimus have shown modest activity in metastatic disease (mRCC). In their previous work, authors hypothesized that gene expression associated with everolimus benefit may provide the rationale to select appropriate patients. Their study showed similar outcomes in everolimus alone versus everolimus with a vascular disrupting agent (BNC105P) and no added benefit from BNC105P.

Samples from the everolimus arm of a phase III trial (CheckMate 025) were used for validation. Most patients (84%) had received one prior line of tyrosine kinase inhibitors (TKI). Using the Nanostring platform, authors shown that gene expression profiling of 82 samples for 517 genes enabled the identification of a 4-gene expression signature (ASXL1, DUSP6, ERCC2, and HSPA6) that was associated with clinical benefit in the entire discovery cohort (82 patients). Among 37 patients with high expression of this 4-gene signature, 81% displayed clinical benefit. This was validated in 130 patients from CheckMate 025 treated with everolimus.

*REFERENCE: Gene Expression Signature Correlates with Outcomes in Metastatic Renal Cell Carcinoma Patients Treated with Everolimus Alone or with a Vascular Disrupting Agent Yang ES et al. Mol Cancer Ther 2021 Aug;20(8):1454-1461. doi: 10.1158/1535-7163.MCT-20-1091*

#### Pancreatic metastasis (PM) has been associated with improved clinical outcomes in mRCC patients

Recent study demonstrated an increase in OS, PFS, and overall response rate (ORR) in mRCC patients with pancreatic metastasis (PM). This supports previous findings that certain metastases patterns within mRCC may predict prognosis, which could aid in therapy selection and clinical decision-making. Within the small cohort of PM patients (5%) extracted from our overall pool, there was a higher prevalence of patients that had IMDC favorable risk compared to patients without PM. This aligns with previous findings in several mRCC cohort analyses that demonstrated more indolent disease when PM is present.

Although pancreatic metastasis (PM) has been associated with improved clinical outcomes in mRCC patients, this has not been extensively studied in the context of systemic therapy.<sup>1,3,4</sup> In patients with mRCC, patients with PM had significantly prolonged median OS (41.7 vs. 19.0 months) and progression-free survival (10.9 vs. 6.9 months) compared to patients without PM. These OS and progression-free survival (PFS) results were independent of the International mRCC Database Consortium (IMDC) risk group and other sites of metastasis. When categorized by IMDC risk group, OS was improved in the

favorable and intermediate-risk group while PFS was improved only in the favorable risk group amongst patients with PM compared to without PM.<sup>8</sup>

Different therapy regimens should be considered when studying these improved outcomes. This study demonstrated improved PFS in patients with PM who received cytokine therapy and VEGF-targeted therapy compared to patients without PM. However, this finding was exclusive to first-line therapy, which could indicate the development of resistance to therapy with subsequent lines. Also, this study showed improved PFS with cytokine therapy in patients with PM. Considering that combination immunotherapy is now being administered as first-line therapy, it will be crucial to assess its unique effects on mRCC patients with PM.

Despite PM being rare in the context of RCC, their presence is associated improved clinical outcomes. However, further research must evaluate a more granular mechanism to understand the indolent disease behavior and integrate more recently emerging treatment regimens to comprehensively evaluate response to anti-VEGF therapy versus immunotherapy. The mechanism underlying these observations remains under investigation.

#### International Kidney Cancer Symposium 2021 will take place in Austin, Texas and virtually on November 5-6.

This year's IKCS2021 will be conducted both in-person format in Austin, Texas and virtual format on November 5-6. Dr. James P. "Jim" Allison, a trailblazing immunologist who won the 2018 Nobel Prize in Physiology or Medicine, will be the keynote speaker at the Kidney Cancer Association's 2021 (IKCS) in November in Austin, Texas. Allison, chair of Immunology and executive director of the Immunotherapy Platform at the University of Texas MD Anderson Cancer Center in Houston, Texas, was awarded the Nobel Prize for establishing that our immune systems can be stimulated to launch an effective attack against tumor cells. He helped develop the drug ipilimumab (Yervoy®), which is proven to improve survival in many cancers including kidney, melanoma, lung, bladder and colorectal.

"We're thrilled to welcome Dr. Allison to IKCS 2021," said Dr. Christopher G. Wood, Chair of the KCA's Board of Directors and a surgeon and professor at MD Anderson Cancer Center. "Jim's discoveries over his career are foundational to how we treat kidney cancer today and how the field will advance in the future. It is fitting that we hear from him now as we're poised again on the verge of a whole new wave of possibilities for the kidney cancer community and I'm very excited he will be sharing his perspectives with us."

"After a year of holding virtual events, we're excited at the prospect of gathering safely once again to learn, share, and, perhaps most importantly, enjoy each other's company," said Gretchen E. Vaughan, KCA's President and CEO. KCA is working diligently to implement health- and safety-protocols based on the advice of health experts and the latest guidelines and local regulations to mitigate the risk of exposure to COVID-19 and to optimize health and safety conditions for attendees during the event.