1455P – Characterization of patients with metastatic renal cell carcinoma achieving complete response to first-line therapies: Results from the International Metastatic Renal Cell Carcinoma Database Consortium (IMDC)

Kosuke Takemura[1], Vishal Navani[1], Matthew S. Ernst[1], J. Connor Wells[2], Toni K. Choueiri[3], Luis Meza[4], Sumanta K. Pal[4], Jae-Lyun Lee[5], Haoran Li[6], Neeraj Agarwal[6], Ajjai S. Alva[7], Aaron R. Hansen[8], Naveen S. Basappa[9], Bernadett Szabados[10], Thomas Powles[10], Ben Tran[11], Christopher M. Hocking[12], Benoit Beuselinck[13], Takeshi Yuasa[14], Daniel Y.C. Heng[1]

[1]Tom Baker Cancer Centre, University of Calgary, Calgary, AB, Canada; [2]BC Cancer Agency, Vancouver, BC, Canada; [3]Dana-Farber Cancer Institute, Boston, MA, United States of America; [4]City of Hope Comprehensive Cancer Center, Duarte, CA, United States of America; [5]Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea; [6]Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, United States of America; [7]University of Michigan Rogel Cancer Center, Ann Arbor, MI, United States of America; [8]Princess Margaret Cancer Centre, University Health Network, Toronto, ON, Canada; [9]Cross Cancer Institute, University of Alberta, Edmonton, AB, Canada; [10]Barts Cancer Institute, Queen Mary University of London, London, United Kingdom; [11]Peter MacCallum Cancer Centre, Melbourne, VIC, Australia; [12]Lyell McEwin Hospital, Adelaide, SA, Australia; [13]University Hospitals Leuven, KU Leuven, Leuven, Belgium; [14]Cancer Institute Hospital of JFCR, Tokyo, Japan

Background

- Immuno-oncology (IO)-based combinations have demonstrated higher complete response (CR) rates compared to vascular endothelial growth factor-targeted therapy (VEGF-TT)[1-6]
- This study aimed to characterize patients with metastatic renal cell carcinoma (mRCC) who experienced CR to first-line therapies

Methods

- The IMDC database was used to identify response-evaluable patients who received either first-line IO-based combination therapy or VEGF-TT (*ie.*, sunitinib or pazopanib) between 2005 and 2021
- The best overall response was evaluated by investigators according to the revised RECIST guideline (version 1.1)[7]
- The primary outcome was the CR rate in the IO-based and VEGF-TT cohorts, and secondary outcomes were baseline characteristics of those who experienced CR *vs.* non-CR and overall survival (OS)
- Baseline characteristics were compared using Fisher's exact tests for proportions or Mann–Whitney U tests for medians, and Kaplan–Meier survival curves were compared using log-rank tests

Results

- CR rates were 4.6% (52/1126) in the IO-based cohort and 3.0% (223/7557) in the VEGF-TT cohort, giving an odds ratio for CR by IO-based combinations (*vs.* VEGF-TT) of 1.56 (95% CI 1.11–2.17; *P* = 0.009) after adjustment for the IMDC risk
- Absence of bone metastasis and favourable/intermediate IMDC risk were significantly associated with CR in both cohorts (**Table**)
- Among those who experienced CR, non-clear cell histology, sarcomatoid dedifferentiation, and multiple sites of metastases were more frequently observed in the IO-based cohort (**Table**)
- CR was an indicator of favourable OS regardless of first-line therapies given (**Figure**)

Correspondence to: Daniel YC Heng MD MPH FRCPC, Tom Baker Cancer Centre, University of Calgary, Calgary, Alberta, Canada. **Daniel.Heng@ahs.ca** **@DrDanielHeng**

Conclusions

- The CR rate was higher in the IO-based cohort (4.6%) than in the VEGF-TT cohort (3.0%)
- Real-world CR rates were not as high as those in clinical trials
- IO-based combinations achieved CR in patients with traditional adverse clinicopathological features (non-clear cell histology, sarcomatoid dedifferentiation, and multiple sites of metastases)

References

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Table – Baseline patient demographics

Variable, *N* (%)	IO-based cohort					VEGF-TT cohort				
	CR		Non-CR		*P*	CR		Non-CR		*P*
	(*N* = 52)		(*N* = 1074)			(*N* = 223)		(*N* = 7334)		
Age, year (IQR)	60.9	(52.1–67.0)	62.7	(56.0–69.3)	0.156	61.1	(53.9–68.1)	63.1	(55.7–70.2)	0.005
Non-clear cell	7/51	(13.7%)	124/957	(13.0%)	0.831	9/220	(4.1%)	780/6839	(11.4%)	< 0.001
Sarcomatoid	14/47	(29.8%)	164/785	(20.9%)	0.147	24/178	(13.5%)	727/5506	(13.2%)	0.910
Multiple sites	34/45	(75.6%)	763/978	(78.0%)	0.714	92/191	(48.2%)	4975/6549	(76.0%)	< 0.001
Lung metastasis	32/51	(62.7%)	750/1057	(71.0%)	0.211	125/217	(57.6%)	4762/7015	(67.9%)	0.002
Liver metastasis	5/50	(10.0%)	174/1038	(16.8%)	0.245	21/218	(9.6%)	1289/7004	(18.4%)	< 0.001
Bone metastasis	9/52	(17.3%)	353/1049	(33.7%)	0.015	26/218	(11.9%)	2282/7007	(32.6%)	< 0.001
Nodal metastasis	22/50	(44.0%)	531/1045	(50.8%)	0.386	75/215	(34.9%)	3255/6878	(47.3%)	< 0.001
IMDC risk					0.021					< 0.001
Favourable	12/45	(26.7%)	154/954	(16.1%)		40/184	(21.7%)	1124/5961	(18.9%)	
Intermediate	28/45	(62.2%)	542/954	(56.8%)		121/184	(65.8%)	3331/5961	(55.9%)	
Poor	5/45	(11.1%)	258/954	(27.0%)		23/184	(12.5%)	1506/5961	(25.3%)	

Figure – Kaplan–Meier OS estimator