888P **Lesion detection by ceCT, 89Zr-girentuximab and FDG PET/CT in newly diagnosed patients (pts) with metastatic clear cell renal cell carcinoma (mccRCC)**

S.R. Verhoeff[1], S. Es[2], E. Boon[1], E. van Helden[3], L. Angus[4], S. Elias[5], S. Oosting[2], E. Aarntzen[6], A. Brouwers[2], S. Heskamp[6], O.S. Hoekstra[7], H.M. Verheul[3], A.A.M. Van der Veldt[4], E.G.E. de Vries[2], O. Boerman[6], W.T.A. van der Graaf[8], W.J.G. Oyen[1], C.M.L. van Herpen[1]

[1]*Medical Oncology, Radboud University Medical Centre Nijmegen, Nijmegen, Netherlands,* [2]*Medical Oncology, University Hospital Groningen (UMCG), Groningen, Netherlands,* [3]*Medical Oncology, Vrije University Medical Centre (VUMC), Amsterdam, Netherlands,* [4]*Medical Oncology, Erasmus University Medical Center, Rotterdam, Netherlands,* [5]*Epidemiolgy, Julius Center of Health Academy, Utrecht, Netherlands,* [6]*Radiology and Nuclear Medicine, Radboud University Medical Centre Nijmegen, Nijmegen, Netherlands,* [7]*Radiology & Nuclear Medicine, Vrije University Medical Centre (VUMC), Amsterdam, Netherlands,* [8]*Division of Clinical Studies, Royal Marsden Hospital Institute of Cancer Research, Sutton, Surrey, UK*

Background: As slow disease progression is observed in a subset of mccRCC patients, watchful waiting can be considered, thereby postponing toxicity of systemic treatment. To identify those patients, the IMPACT trial evaluated the role of anti-Carbonic

Anhydrase IX antibody ^{89}Zr-girentuximab and ^{18}F-fluorodeoxyglucose (FDG) PET/CT (PET). Here, we report preliminary analyses of a secondary endpoint: comparison of baseline contrast-enhanced(ce)CT, ^{89}Zr-girentuximab and FDG PET to detect metastases.

Methods: mccRCC pts with good or intermediate prognosis (according to IMDC) and eligible for watchful waiting were included. Patients underwent 3 scans, i.e. ceCT, ^{89}Zr-girentuximab and ^{18}F-FDG PET. So far, baseline scans of 29 of the 40 pts to be accrued were independently reviewed by 3 experienced readers. Lesions by ceCT were defined positive according to RECIST1.1. For lesions with prominent uptake of ^{89}Zr-girentuximab or ^{18}F-FDG, maximum Standardized Uptake Values (SUVmax) were calculated. Analyses were performed on a lesion level, taking clustering of data within patients and lesions into account.

Results: In total 325 lesions were detected by at least one modality (mean 11(2-33) per pt); ceCT detected 52% (95%CI:45;58), ^{18}F-FDG PET 61% (95%CI:55;67) and ^{89}Zr-girentuximab PET 69% (95%CI:63;74). Differences in lesion detection varied across organ sites($p < 0.001$). Lesions were visualized by ceCT and ^{18}F-FDG PET in all pts,whereas ^{89}Zr-girentuximab PET detected lesions in 27 of 29 pts. Compared to ceCT, ^{89}Zr-girentuximab PET visualized additional lesions in all organ sites. Location was strongly related with ^{89}Zr-girentuximab uptake; highest uptake in kidney and adrenal gland tumor (mean SUVmax 63.2 and 70.3, resp) and lowest uptake in lung and lymph nodes (mean SUVmax 10.9 and 15.0, resp). After correction for location, no relation was observed between ^{89}Zr-girentuximab SUVmax and tumor size, as measured by ceCT, and ^{18}F-FDG SUVmax.

Conclusions: ^{89}Zr-girentuximab and ^{18}F-FDG PET visualize additional lesions compared to ceCT, however correlation was poor. The addition of ^{89}Zr-girentuximab or ^{18}F-FDG PET might aid in deciding to either delay or start systemic treatment.

Clinical trial identification: NCT02228954.

Legal entity responsible for the study: Radboud University Medical Center (Radboudumc).

Funding: Supported by the Dutch Cancer Society.

Disclosure: All authors have declared no conflicts of interest.