

¹¹C-acetate PET for early prediction of sunitinib response in metastatic renal cell carcinoma

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ABSTRACT

Sunitinib is an oral multitargeted tyrosine kinase inhibitor with antiangiogenic properties used for treatment of renal cell carcinoma and gastrointestinal stromal tumors at a dose of 50 mg/day consecutively for 4 weeks followed by 2 weeks off per cycle. At present, no data are available on the early prediction of sunitinib response in renal cell carcinoma. We report a clinical case of a patient with metastatic renal cell carcinoma diagnosed with ¹¹C-acetate PET and conventional CT and treated with sunitinib. Partial and complete remission documented by CT was preceded by early functional tumor inhibition shown by ¹¹C-acetate-PET after only 14 days of therapy. This case report highlights some interesting points related to the potential role of a novel non-FDG PET tracer, ¹¹C-acetate, in the early prediction of the response to targeted therapies in metastatic renal cell carcinoma.

Key words: PET, sunitinib, renal cell carcinoma, treatment response prediction.

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