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LETTER TO THE EDITOR

^{177}Lu-PSMA-617 radioligand therapy of mCRPC: evaluation criteria of response

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Dear Editor,

With great interest we read the manuscript by Yadav et al. [1] according toxicity and efficacy of radio ligand therapy (RLT) with ^{177}Lu-PSMA-617. During the last 2 years, there has been a growing number of patients treated with this new therapy and several studies have been published demonstrating the efficacy and safety of ^{177}Lu-PSMA-617 RLT [2–6].

Being in competition with other oncologic therapies, the evaluation of therapies using standardized and generally accepted criteria is mandatory.

As presented by the prostate cancer work group by Scher et al. [7] and generally accepted as a standard for reporting study results on patients with castration-resistant prostate cancer, a decline of prostate-specific antigen (PSA) ≥ 50 % as best biochemical response on therapy is considered as a response to treatment within at least 12 weeks of follow-up. During the first 12 weeks of follow-up, a PSA flare can occur that may later on be followed by delayed decline. In the presented study, the authors evaluated biochemical response by comparing mean values after RLT with baseline and consider a single case PSA values of <4 as remission. This, however, is the upper normal limit in a healthy population of men without prostate cancer and cannot be used for defining biochemical response. In fact, only a decline of PSA below the level of detection of the respective PSA assay can be considered complete biochemical response. The approach of assessing biochemical response in the present study makes it inadequate and renders comparison of data with other studies impossible.

Furthermore, the authors report on administration of amino acid solution in order to protect kidney function. The authors report that amino acid coinfusion is not required but simple and with no adverse events. However, in accordance with our experience after many hundreds of patients treated with peptide receptor therapy using ^{177}Lu-DOTATATE and coinfusion of amino acid solution, we recognized an elevation of serum potassium values requiring a medication to reduce serum levels in some cases, as already reported by Lapa et al. [8]. As far as it is not required, an additional medication such as amino acid solutions makes this simple therapy more complicated, irrespective of the possible side effects.

Furthermore, it remains unclear why the authors used a slow infusion of ^{177}Lu-PSMA-617 up to 4 h. To our knowledge, there are no reported side effects of a faster administration to justify a slow infusion.

Moreover, the authors evaluated response by imaging using PERCIST criteria [9], but PERCIST has been developed for ^{18}F-FDG and has not been modified or evaluated for PSMA imaging.

Finally, yet importantly, we welcome other therapy studies from other parts of the world to pursue this new promising therapy option for patients with mCRPC, but standardized evaluation methods are mandatory.

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Compliance with ethical standards

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