



Reply to comments on “Refractory ventricular tachycardia treated by a second session of stereotactic arrhythmia radioablation”

Dear Sir,

We thank Dr. Cvek and colleagues for their interest in our recent publication in CTRO on the use of reirradiation for the treatment of ventricular tachycardia. We appreciate your comments and are pleased that our work has sparked some discussion and debate.

It is true that there is a large variability in the size of targets used for ventricular tachycardia ablation in the literature. This variability can be attributed to factors such as the tools used to define the target, the margins chosen for the planning target volume (PTV), and the type of radiotherapy machine used to treat the patient. As a result, further evidence is needed to determine the optimal target size for radiotherapy in this setting. Additionally, it is important to carefully consider the individual patient and their specific circumstances when determining the appropriate target size, as no “one-size-fits-all” approach will be effective for all patients.

Specifically in our series we aim to target only the clinical ventricular tachycardia and not the whole arrhythmogenic substrate, as part of the substrate has already been treated by radiofrequency. This is the main reason why our volumes are restricted when compared with other publications.

We thank for the other suggestion of comparing the intersection of primary and secondary radioablation PTVs. In the first case, we did not reablate the same PTV but rather extended the target volume to include a wider arrhythmogenic substrate. In the second case indeed, we decided to complete the dose over the previous treated volume.

Regarding the treated volumes there is for the first case only a minor overlap in PTV (0.015 cm³). A more significant overlap was found on the cumulative dose (considering first and second radioablation), as we measured a volume of 29.009 cm³ exceeding the Dmax of the first

irradiation (>25.15 Gy). For the second case, the intersection volume between the first PTV and the second one was 19.772 cm³ and the volume receiving more than 23.26 Gy (Dmax of the first treatment) was 89.941 cm³.

Finally, concerning the size of the first and second PTV of the case 2, as described on the figure 2C.4 of our publication, the illustration shows RAO and LAO views of the STAR plan with the PTV in red and the complementary and transition volume in pink and fuchsia respectively. The larger volume is therefore the combined one.

Once again, we thank you for your letter and for highlighting the importance of our work in the field of radioablation for ventricular tachycardia.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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