Reviewer's report

Title: Hypofractionated stereotactic radiotherapy of limited brain metastases: A single-centre individualized treatment approach

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Reviewer: Igor Latorzeff

Reviewer's report:

1. Is the question posed by the authors well defined?
   To my opinion, the article frame and the question posed by the authors are clearly well defined. The retrospective approach of this article even allows them to build an article focusing one question (ie hypofractionated radiotherapy treatment) gathering two different cranial metastases situations (primary intention or recurrence).

2. Are the methods appropriate and well described?
   It is a retrospective single institution publication. All patients treated during a fixed period of time seemed enrolled. Population description and statistical analysis also are well provided. Good and enough follow-up duration allows data analysis. Dose equivalence provided in the article is appreciated for better understanding of treatment strategies used.

3. Are the data sound?
   Hypofractionated radiotherapy in cranial metastatic setting is an interesting field of research because it is often a therapeutic dead lane for physicians almost in the time of recurrence after initial irradiation. This article including a large series of patients and cranial metastasis is relevant to address the question and the importance of hypofractioned stereotactic radiotherapy.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   I have no conflict to declare with reporting and data deposition for this article. Everything seems to follow perfectly standards and international publication rules.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   The discussion refers properly to international treatment standards for primary irradiation for cranial metastases. It is more investigational option for recurrent setting as few publications support ideal dose regimen. Nevertheless, even if discussion seems short (retrospective data and multiple dose regimens make
difficult dose level choice), authors managed to argue 10 x 4 Gy offers the best local control and tolerance, as it has already been published for german speaking readers.

6. Are limitations of the work clearly stated?
Yes, limitations are clearly indicated in this article

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Nothing is missing in terms of work acknowledgement in this publication to my opinion.

8. Do the title and abstract accurately convey what has been found?
Title sums up properly what readers will find in the article, ie single institution individualized hypofractionated stereotactic radiotherapy for brain metastases.
Abstract reminds the retrospective situation of the study and respects abstract body construction publication rules. Results for survival data and local control are reported including statistical analysis of relevant factors influencing survival data.
Abstract is clear and well balanced.

9. Is the writing acceptable?
It is an easy reading study in terms of English language

- Major Compulsory Revisions
None

- Minor Essential Revisions
Correction: “Results” paragraph in Overall survival and influencing factors paragraph: 4th sentence I will avoid comma after the word progressive and add “respectively” at the end of the sentence.

Terms corrections: “Discussion” paragraph : 5th sentence. Erase “Of 12 months” which a repetition after “12-months LC”
Correction: “Toxicity” paragraph. Replace alopecia by alopecia. Same comment for “List of abbreviations” paragraph, with hfSRT should be translated in hypofractionated better than hypofraktionated. Last correction for “figure legends” paragraph where “continous” should be replaced by continuous.

- Discretionary Revisions
As reviewer of this study I would say I found really interesting the question posed and the experience of authors institution. Through the retrospective point of view of this reporting work, it seems hard to claim that one dose regimen is statistically superior to others used in this study especially when aggregating patients treated for primary or post irradiation recurrence cranial metastases. First a difficult point remains the large number of dose regimen used without really choice explanation appearing clearly in the “Methods” paragraph (tumor volume,
localization, number of lesions, recurrence…). If possible, I tried to better highlight in “Table 3” dose and tumor volume, as it is given by authors as an explanation. Authors used for primary and recurrent treatments different levels of dose and it is a bit confusing for reader to correlate these data. For instance, the dose equivalence of 44-47 Gy given for 2 dose regimens (7 x 5 Gy and 10 x 4 Gy) by authors were referred for 2 different tumor volume prescriptions and for primary or recurrence treatment as indicated by authors. Furthermore the better fractionation protocol (10x4 Gy) is confounding regarding primary irradiation unless tumor volume was superior to generally (3 cm) accepted SRS dose volume prescription (not really mentioned by authors).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'