Reviewer's report

Title: 3D-image-guided HDR-brachytherapy after External Beam Radiotherapy for Early T-Stage Nasopharyngeal Carcinoma

Version: 4
Date: 19 August 2014
Reviewer: Gustavo Viani

Reviewer's report:

In the study entitled: '3D-image-guided HDR-brachytherapy after External Beam Radiotherapy for Early T-Stage Nasopharyngeal Carcinoma', Ren et al. analyzed the results between 3d vs 2d brachytherapy in patients with early NPC. The authors included 219 patients in their analysis, and 3d brachytherapy produced better-local control and disease free survival than 2d brachytherapy. This study really is the first to compare these treatment techniques and, also, the first to show better results in favor of 3d over 2d technique. Therefore, the findings observed in this study contribute with the NPC management. However, there are important considerations that the authors must address before the study be published. Bellow is the suggestions to improve the quality of the article;

1 Title. I suggest change to '3D-image-guided HDR-brachytherapy versus 2D HDR - brachytherapy after External Beam Radiotherapy for Early T-Stage Nasopharyngeal Carcinoma.'

2. In the introduction section, the author should discuss the importance of brachytherapy treatment as salvage treatment. Once, there are a lot of experience with good results utilizing this approach in patients with NPC previously treated with IMRT.

3. In the methods section, I suggested that they describe the inclusion criteria for the patients be enrolled in the study.

4. What was the definition of local control used? Was the local recurrence confirmed by biopsy or only by image studies?

5. Results. We need to know how long was the follow-up time in both groups? Another point that deserves be clarified is the proportion of patients treated by conventional, 3D and IMRT during the EBRT phase. In other words, How many patients were treated by each EBRT modality? This information is crucial, since NPC patients treated with conventional have worst local control than IMRT, and this possible imbalance in the EBRT technique between the brachytherapy groups can contribute for differences seen in the results. Thus, I suggest that the authors show the EBRT techniques in table 1, and put it in the univariate analysis for endpoints of the study.

6. In the 3d arm, how was delineated the GTV and CTV in patients with complete response? How was the dose prescription in both groups? What was the dose schedule used for brachytherapy?

7. What was the chemotherapy schedule used? Weekly cisplatin, 3 weeks
cisplatin or another regimen?

8. Discussion. The authors must discuss the relationship between the follow up time and its difference between the two arms and its possible influence on the recurrence rate observed in both groups.

9. The authors should remove the paragraph about cost benefit. The study was not designed to evaluate cost neither benefit from brachytherapy or any other treatment modality.

10. Conclusion. The authors should stress the role of 3D brachytherapy for the local control mainly in T2b tumors.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I have no competing interests in relation with this paper.