

## HDR brachytherapy in low resource countries

### Introduction :

HDR brachytherapy is still the best conformal radiotherapy technique. It is less expensive than any EBRT technique and could be used in developing countries as a curative intent or a salvage option and in some rare cases as palliative intent.

We report our experience in its use as a salvage treatment in pre irradiated sites not eligible for 3DCRT.

### Material and Methods

This is a retrospective study of 9 patients : 8 with with nasopharyngeal cancer recurrence and 1 with oral tongue recurrence collected in the radiotherapy department of the University Hospital Hassan II in Fes between January 2014 and December 2019.

All patients with nasopharyngeal cancer received external radiation therapy at 70 Gy on macroscopic tumor volume (tumor and lymphadenopathy) during initial irradiation with or without chemotherapy. The patient with squamous cell carcinoma of the tongue had surgery (tumor excision with lymph node dissection) and adjuvant chemoradiotherapy at 60 Gy with concomitant cisplatin.

All recurrence were histologically proven.

For nasopharynx : Relapse was localized in 5 patients and associated with lymph node involvement in 3 patients. For the oral tongue : it was localized.

Concerning the technique of brachytherapy :

Intracavitary brachytherapy with Rotterdam applicator was used in nasopharyngeal recurrences : 2 patients received exclusive high-dose-rate brachytherapy at a dose of 30 Gy in 10 fractions and 6 received external radiation radiotherapy followed by brachytherapy ( 40 -50 Gy in EBRT followed by brachytherapy boost of 2-4 x 3 Gy.

Interstitial brachytherapy with flexible needles was used for the local recurrence of the oral tongue with trans-submandibular insertion at a dose of 12 x 4 Gy.

### Results

The average age of our patients is 42 years old. There were 1 woman for 8 men. The mean time from symptoms to consultation was 6 months. Histology of nasopharyngeal carcinoma was WHO III and SCC for the oral tongue.

The average time to onset of relapse is 29 months.

With an average follow-up of 20 months, 37.5% of NPC patients and the patient with oral tongue recurrence are alive and in complete remission.

### Conclusion

Brachytherapy alone or after EBRT could play an important role in reirradiation of locally recurrent Head and Neck cancers with acceptable toxicity.

## Country or Int. Organization

Morocco

## Affiliation

Department of Radiotherapy, University Hospital Hassan II

**Primary authors:** AIT ERRAISSE, MOHAMED; YOUSOUFI, Moulay Ali (Service de Radiothérapie, CHU Hassan II); Prof. HASSOUNI, KHALID (Service de Radiothérapie, CHU Hassan II.)

**Presenter:** AIT ERRAISSE, MOHAMED

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