

Brachytherapy as definitive radiotherapy in an advanced stage adenoid cystic carcinoma of the buccal mucosa

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SUMMARY

The practice of brachytherapy for the treatment of head and neck cancer; as part of combined modality or as a sole treatment had been well established. A 78-year-old woman who was referred to our centre for radiotherapy treatment. She was initially diagnosed with node negative locally advanced left oral cavity adenoid cystic carcinoma (ACC) with extension to the left mandible and was not keen for surgery in view of multiple comorbidities and high-risk consent. Intraoral examination revealed a 4 cm irregular mass that was hard, fixed, and non-tender at the left lower vestibulo-buccal junction. Radiological imaging showed a mass measuring 1.9 cm x 2 cm likely arising from the left sublingual extending laterally to submental region with the possibility of erosion of the adjacent mental of the left mandible. The tumor was staged as cT4aN0M0. We offered her high dose palliative brachytherapy, 36Gy in 6 fractions twice daily for 3 consecutive days with High Dose-Rate (HDR) Brachytherapy using Ir 192 source delivered to the tumor via 5 brachytherapy applicators inserted under general anaesthesia. She had a clinically complete response after 3 months and continues on remission at 1 year follow up confirmed by imaging. To date, there is no published case of locally advanced intra-oral buccal ACC treated with upfront high dose palliative intent brachytherapy. This method could potentially be an option in a non resectable or non-surgical candidate of buccal mucosa malignancy.

Hybrid Brachytherapy Followed By Intensity Modulated Radiation Therapy (HyBIRT) Technique for the definitive management of localized tongue cancer: A case series

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SUMMARY

Introduction: Regimens that incorporate interstitial brachytherapy (IBT) in the definitive management of tongue squamous cell carcinomas (TSCC) have comparable local control (LC) rate to surgical series. Published definitive radiotherapy (RT) series that combined external beam radiotherapy (EBRT) and IBT followed a sequence of upfront EBRT followed by IBT. Since lower EBRT dose was used in these series, a significant proportion of patients had to undergo salvage or planned neck dissection due to persistent disease in the neck. **Methods:** This manuscript describes the novel HyBIRT (Hybrid Brachytherapy followed by Intensity Modulated Radiation Therapy) technique and the toxicity, functional, and disease outcome of our first two TSCC patients who were treated with this reversed order of delivering high-dose-rate IBT (HDRIBT) followed by adoptive Intensity-modulated radiation therapy (IMRT) in definitive setting at Advanced Medical and Dental Institute, Universiti Sains Malaysia. **Results:** Treatment related toxicity resolved by six months after treatment. After more than a year of follow-up, both patients are in clinical and radiological disease remission. The tongue function is reasonably well preserved with mild taste and speech impairment. **Conclusion:** HyBIRT technique has the advantage of easy identification of tumor margins during IBT applicator insertion and the ability to maneuver the subsequent IMRT plan to account for the under or overdosed region in HDRIBT. Tumor control probability (TCP) is also increased by shortening the overall treatment time (OTT) and delivering tumoricidal radiation dose to gross disease. These two patients had complete response with good tongue function at 1 year post treatment follow up which showed the abundance potential of this technique.