

Squamous cell carcinoma of the buccal mucosa is relatively rare in the United States and Western Europe¹. For early stage lesions, T1 and T2, treatment options include surgery or external beam radiation therapy followed by a localized boost with an electron beam, interstitial implant or intraoral cone therapy.

This work will present a case of early stage squamous cell carcinoma of the left buccal mucosa treated with intensity modulated radiation therapy (IMRT) followed by a high dose rate (HDR) brachytherapy boost. The initial treatment was delivered with IMRT to spare the contralateral parotid and prevent xerostomia. The decision to deliver the boost via HDR was dictated by the fact that our new orthovoltage unit was not commissioned at the time of treatment.

With limited literature available on HDR mold radiotherapy for oral cancer², a discussion on the issues encountered during treatment planning and delivery may prove to be insightful for facilities faced with a similar challenge. During this presentation we hope to convey the importance of (1) careful mold construction, (2) considerations for treatment planning (i.e. CT planning – purchase of CT compatible dummy strands versus conventional – definition of mold surface using fluoroscopic images) and (3) pre-treatment quality assurance of the catheters.

¹ E.M. Diaz *et al.*, *Head & Neck*, pp. 267-273 (2003).

² E. Yoden *et al.*, *Int. J. Oral Maxillofac. Surg.*, Vol 28, pp. 451-453 (1999).