2 Summary

Purpose: Evaluation of the postoperative high-dose-rate brachytherapy (HDR BT) in the treatment of early oral cancer and factors influencing tumour control.

Material and methods: Thirty patients with T1-T3N0 tongue and floor of mouth cancer were treated with tumour excision elective neck dissection and HDR BT 18 x 3 Gy bid. The Kaplan-Meier model was used for survival analyses and the log-rank test and Cox regression analyses were used to evaluate the influence of T-stage, histological grade, resection margin, depth of invasion, and vascular endothelial growth factor (VEGF) intensity on local control (LC), nodal control (NC), disease-free survival (DFS) and overall survival (OS). Median follow up was 40 months (6 - 145).

Results: Actuarial 5 year LC, NC, DFS, DFS after salvage treatment and OS were 85.4%, 69.2%, 65.4%, 75.6% and 73.0%, respectively. The log-rank test and univariate Cox regression analysis revealed the following correlations: tumour grade correlated with LC, DFS and OS; T-stage with NC and DFS; depth of invasion and VEGF intensity with NC, DFS and OS. Associations detected on the multivariate analysis were as follows: tumour grade with LC; depth of invasion with NC; depth of invasion and tumour grade with DFS; and VEGF intensity with DFS after salvage treatment. Only one case of osteoradionecrosis and two cases of soft tissue necrosis occurred.

Conclusions: The postoperative HDR BT 18 x 3 Gy bid is safe treatment of early oral cancer with a good local control. The T-stage, tumor grade, depth of invasion and intensity of VEGF were significant predictors of locoregional control.