

INTERSTITIAL HIGH-DOSE-RATE BRACHYTHERAPY FOR LIP CARCINOMA

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Despite the number of recommendations for insertion of applicators in HDR brachytherapy, many questions regarding the applicators setting, dose normalization and its value are still under discussion. Not a randomized trial comparing the efficacy of standard fractionation modes with the other ones. The choice of dose and normalization is usually based on the volume of the tumor, histology, data from diagnostic tests. Prophylactic dose is usually applied to the entire lip and treatment dose – to the apparent tumor.

The aim of study was to determine the effectiveness of high-dose-rate brachytherapy monotherapy for squamous cell carcinoma of lips.

We used a rigid iron needle that were inserted and removed after each fraction. This allows the patient to feel more comfortable between the fractions, it reduced the risk of further infection and allowed to deliver larger doses. 57 patients with histologically confirmed squamous cell carcinoma of lips have been treated with brachytherapy in department of Radiotherapy from 2015 to 2020. Needles are inserted under local anesthesia. The number of needles varied from 2 to 7 depending on the volume of tumor and necessity of prophylactic irradiation of the surrounding tissue. A single dose amounted 8 Gy. Irradiation took place 2 times per week, total of 4 fractions. Mandible viewed as a critical organ. Planning took place after the CT scan. Irradiated volume covered by prescribed dose was equal 10-24 ccm. Graphical method was used for plan optimization.

Swelling after the introduction of needles as a rule disappeared in the evening of the same day, the bleeding stopped in few minutes after discharging. Radiation reaction lasted on average during the month. New young tissue was formed under the crusts. During the seven years of observation no recurrence was revealed. There was no indication of radiation complications.

Conclusions. 32 Gy for 4 fractions, 2 times a week allows to achieve a good local tumor control, reduces the likelihood of infection, which is often observed with the introduction of flexible applicators. Patient well-being between the factions was significantly improved. Radiation complications were not observed in this fractionation regime.