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Preliminary Results of the Comparison of the Efficacy of Conventional and Unconventional Radiotherapy in Paragangliomas of Head and Neck Treatment

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Abstract
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Abstract

Objectives:

The aim of this work is the appraisal of the effectiveness of different methods of radiotherapy based on changes of tumor volumes taking into account fractional and total doses in patients with paraganglioma of the head and neck.

Methods:

76 patients qualified for radiotherapy at Maria Sklodowska-Curie National Research Institute of Oncology, Gliwice Branch in Poland, were assigned to 2 groups considering fractional (⩽ 2 Gy or > 2 Gy) and total (⩽ 40 Gy, > 40 Gy) doses. Unconventional treatment was applied using stereotactic radiotherapy techniques. Volumes of the tumor were found on diagnostic imaging performed before the treatment and on the last control visit in the observation period.

Results:

The mean tumor volume before conventional and unconventional radiotherapy was 30.5 cm3 and 12.2 cm3, respectively. The mean tumor volume after the treatment with the conventional fractional dose ⩽2 Gy and total dose > 40 Gy was decreased by 14.4 cm3. In patients treated with unconventional fractional doses >2 Gy and total dose ⩽ 40 Gy, the mean tumor volumes decreased by less than 1 cm3. The mean follow-up was 37 months. The analysis demonstrates a statistically significant ($p < 0.05$) treatment advantage in patients after the conventional treatment relative to unconventional methods of fractionation.

Conclusion(s):

Conventional schemes of fractionation to total dose > 40 Gy give better response measured by tumor volume decrease than unconventional methods of radiotherapy.