Original research article

**Quality of life and radiotherapy in brain metastasis patients**

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**Abstract**

**Aim**

The primary objective of this study was to assess whether there was an improvement in QoL for patients with brain metastases after radiotherapy treatments.

**Background**

Assessment of quality of life (QoL) in brain metastasis patients has become increasingly recognized as an important outcome.

**Materials and methods**

Patients treated for brain metastasis in our department during 2010 were included in our prospective study. QoL assessments were conducted at baseline, 1 month, and 3 months after completion of whole-brain radiotherapy (WBRT). Wilcoxon test for multiple comparisons was calculated to detect significant differences in global QoL scores.

**Results**

Thirty-nine patients with brain metastases completed the EORTC QLQ-C30/BN-20 questionnaire independently. Median age was 59.9 years (from 37 to 81 years). Our results report differences between the baseline and 3 months in worsening of a global health status ($p = 0.034$) and cognitive function ($p = 0.004$), as well as drowsiness ($p = 0.001$), appetite loss ($p = 0.031$) and hair loss ($p = 0.005$). There is a tendency for deterioration of physical function ($p = 0.004$), communication deficit ($p = 0.012$), and weakness of legs ($p = 0.024$), between the baseline and 1 month evaluation. There was no difference in a global cognitive status between different evaluations. Median survival time was 3 months (CI 95% 1.85; 4.15).

**Conclusions**

Our findings indicate a small deterioration for a global QoL status, and large deterioration for cognitive function after radiation treatments, as well as worsening of brain metastasis related symptom items. Further research is necessary to refine treatment selection for patients with brain metastases, since it may at least contribute to the stabilization of their QoL status.

**Keywords**

Brain metastases; Quality-of-life; Radiotherapy; Whole brain radiotherapy