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学位論文の題名	Partial-brain radiotherapy for primary central nervous system lymphoma: Multi-institutional experience (中枢神経悪性リンパ腫に対する拡大局所照射：多施設での治療経験) Journal of Radiation Research (Advance Access published December 9, 2015)
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Purpose:

Whole-brain radiotherapy (WBRT) has been an important component of treatment for primary central nervous system lymphoma (PCNSL), but delayed neurotoxicity has been a matter of concern. We have employed partial brain radiotherapy (PBRT) with wide margins for PCNSL patients with a single lesion or a few lesions. In this study, we evaluated the treatment outcome in PCNSL patients undergoing PBRT.

Methods and Materials:

Between 2003 and 2014, 24 patients were treated with PBRT; 16 received high-dose-methotrexate (MTX) –containing chemotherapy before PBRT. Conventional fractionation with a median dose of 54 Gy was used. For reference, 15 patients undergoing MTX-based chemotherapy and WBRT were also analyzed.

Results:

The 3-year overall survival rate was 60% for all 24 patients undergoing PBRT and 68% for the 16 patients undergoing MTX-based chemotherapy plus PBRT. The 3-year progression-free survival rate was 41% for all 24 patients undergoing PBRT and 36% for the 16 patients undergoing MTX-based chemotherapy. The in-field recurrence rate was 26% and the out-of-field recurrence rate was 15% at 3 years for all 24 patients undergoing PBRT. The rates for in-field recurrence and the out-of-field recurrence were 27% and 21%, respectively, for the 16 patients undergoing MTX-based chemotherapy. CNS-recurrence rates were similar in patients undergoing MTX-based chemotherapy and PBRT to the rates in those undergoing MTX-based chemotherapy and WBRT.

Neurocognitive dysfunction developed in 3 of the 16 patients undergoing MTX + PBRT and in 4 of 15 patients undergoing MTX + WBRT ($P = 0.68$).

Conclusions:

PBRT seems to be a feasible treatment option for solitary PCNSL. Further investigations are warranted to evaluate the advantages of PBRT over WBRT.