Whole brain radiotherapy: Consequences for personalized medicine

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Abstract

Several studies focusing on brain irradiation are in progress. Reflecting updates of relevant outcomes in palliative treatment of patients suffering from brain metastases, the primary objective of these studies is the evaluation of neurocognitive function and quality of life. Improvements of technology in radiation oncology allows us to spare the hippocampal region while appropriately irradiating other parts of brain tissue. Irradiation of the hippocampus region is likely to lead to manifestations of adverse events with a subsequent impact on patient’s quality of life, which is in fact an improper approach in palliative medicine. Ongoing studies evaluate results of hippocampus avoiding radiotherapy compared to standard whole brain radiotherapy. Incorporation of neurocognitive function assessment may result in the confirmation of superiority of sparing the region of hippocampus and thus change current style of providing brain irradiation.

Keywords

Whole brain radiotherapy; Brain metastases; Decision-making; Personalized medicine