Neuro-Oncology 16:v32–v40, 2014.
doi:10.1093/neuonc/nou240

NEURO-ONCOLOGY

Abstracts

BM-16. INCREASED ACUTE RADIATION EFFECT (ARE) WITH IPILUMUMAB AND RADIOSURGERY IN PATIENTS WITH MELANOMA BRAIN METASTASES

Leila Khoja[1,2], Goldie Kurtz[1,2], Gelareh Zadeh[2,3], Normand Laperriere[1,2], Cynthia Menard[1,2], Barbara-Ann Millar[1,2], Mark Bernstein[2,3], Paul Kongkham[2,3], Anthony Joshua[1,2], David Hogg[1,2], Marcus Butler[1,2], and Caroline Chung[1,2]; [1]Princess Margaret Cancer Centre, Toronto, ON, Canada; [2]University of Toronto, Toronto, ON, Canada; [3]Toronto Western Hospital, Toronto, ON, Canada

BACKGROUND: Ipilumumab (Ipi), an antibody that enhances T-cell activation, has been shown to improve survival in patients with metastatic melanoma. Ipilumumab may have synergistic effects with radiotherapy but this may result in increased toxicity. This study investigated the incidence of acute radiation effect (ARE) in patients with melanoma brain metastases treated with Ipi and radiosurgery (SRS) or whole brain radiotherapy (WBRT). METHODOLOGY: This retrospective study included metastatic melanoma patients treated at our institution from 2008-2013 who received SRS or WBRT for brain metastases within 4 months of Ipi treatment. We evaluated the incidence, timing and factors associated with acute radiation effect (ARE). RESULTS: From 159 patients treated with Ipi, 22 patients also received brain RT within 4 months of treatment. Three patients were excluded for lack of follow-up brain imaging, thus 19 were analysed: 14 males and 5 females, with median age 58 years (range 24-82). Ten were treated with SRS, 7 with WBRT, and 2 with SRS plus WBRT. Median dose for SRS was 21 Gy (range: 15-24 Gy). Five of 13 patients treated with SRS (38%) experienced symptomatic edema requiring steroids within 1 month of starting Ipi, and within 4 months of RT. One patient had a haemorrhage and 1 required surgical resection, which demonstrated viable disease. Therefore 3 patients (23%) treated with SRS developed isolated ARE. These metastases had volumes less than 4.2 cm^3 and were treated within 4 months of Ipi to a median dose of 19.5 Gy (range 15-21 Gy). No patients with WBRT alone developed ARE. CONCLUSIONS: Following SRS for brain mets and Ipi, ARE was seen in 23% of patients within 4 months of starting Ipi treatment. This is greater than the commonly reported 10% risk of ARE after SRS alone for brain metastasis. No increased toxicity was seen with WBRT and Ipi.