MELANOMA AND OTHER SKIN TUMOURS

1113P MUTATION ANALYSIS OF MELANOMA PATIENTS WITH LEPTOMENINGEAL DISEASE (LMD) RECEIVING INTRATHecal INTERLeUKIN-2 (IT-IL-2) AT MD ANDERSON CANCER CENTER (MDACC)

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Aim: LMD is a devastating end-stage complication of Malignant Melanoma (MM). It remains one of the most difficult forms of this disease, with a dismal median survival ranging from 8-10 weeks. The incidence of LMD is increasing, secondary to improved systemic treatments and increasing longevity for patients with MM. However, treatment for LMD remains mostly supportive with or without palliative craniospinal irradiation. At MDACC, we have been treating MM LMD patients with IT IL-2 for over 20 years. Little has been published regarding the mutation status of this special population. Here we present the molecular aberrations in BRAF, NRAS and CKIT in a cohort of MM LMD patients at MDACC.

Methods: Between 1994 and 2014, we followed consecutive MM LMD patients receiving IT IL-2 at MDACC. A total of 43 patients were treated and their data collected. Mutation analysis became a routine part of our practice in 2010 where tumor tissue or cerebrospinal fluid cytology was available.

Results: Of the 43 patients who received IT IL-2, 30 had evaluable molecular results. The most common mutation in MM LMD patients receiving IT IL-2 was BRAF, present in 63% (n = 19), followed by NRAS, which was present in 27% (n = 8), with no patients carrying the CKIT mutation. Three patients (10%) were wild-type for BRAF, NRAS and CKIT genes. We compared this high BRAF and NRAS mutation rate (90%) to that seen in the general melanoma population (65%). Using an exact two-sided binomial test, this higher frequency in MM LMD patients undergoing treatment with IT IL-2 was statistically significant with a p-value of 0.0038.

Conclusions: In our small series of patients with MM LMD undergoing treatment with IT IL-2, a high frequency of BRAF and NRAS mutations was seen (90%). This is statistically significant when compared to the general MM population, where BRAF and NRAS rates approach 65% (p = 0.0038). This difference may be due to patient selection, or it may signify a predisposition for patients with certain genetic aberrations to develop fatal LMD. More patients are needed to corroborate this finding. Detailed demographics and updates will be presented at the meeting.

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