Background

Merkel cell carcinoma (MCC) is a rare and aggressive skin cancer with neuroendocrine features, and it is associated with elevated mortality. The pathogenesis is associated with presence of clonally integrated Merkel cell polyomavirus (MCPyV) or ultraviolet light (UV) exposure. The MCPyV causes up to 80% of MCC tumors in North America and Europe. Recently immunotherapy is having good results, the phase 2 trial JAVELIN Merkel 200 indicated that treatment with Avelumab (PD1 inhibitor) in patients with metastatic MCC pre-treated have a meaningful long-term survival outcomes respect chemotherapy. Moreover, ORRs were highest in patients with high TMB that were also MCPyV−, PD-L1+ or had a greater CD8+ T cell density at the invasive margin. In this study, we investigated the biological signatures in patients with MCPyV or not.

Methods

From April 2011 to June 2018, we collected retrospectively 50 FFPE (Formalin-Fixed Paraffin-Embed) from 37 patients with metastatic MCC and 13 tissues from a secondary metastatic site. All patients have appropriately signed informed consent. We performed an immunohistochemistry assays (IHC) from the single-arm phase 2 JAVELIN Merkel 200 trial. The study was supported by the Istituto Nazionale Tumor IRCCS Fondazione "G. Pascale" of Napoli Italy, approval number of registry 33/17 OSS.

Results

The DSP analysis showed that the tumour border cells have an overexpression of IDO respect intratumoral area (adj. p<0.01). Instead, extratumoral area of MCPyV+ patients have a higher expression of B7-H3 respect MCPyV− as well as FOXP3 is higher in the tumour border of MCPyV+ patients and EpCAM in the intratumoral area (p<0.05). PD1L is over-expressed in MCPyV+ CD4+ cells respect CD8+ (p<0.05). The IHC assay shown that viral status does not change in multiple metastases and PDL1 is elevated in the tumour border (p<0.05).

Conclusions

In this retrospective study, our preliminary data shown that tumour edge have an important role in the modulations of immune infiltrate and patients with Merkel cell polyomavirus could have a different pathway of immunosuppression compared to patients with non-virus related etiology. Further investigations are needed to get additional information.

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REFERENCES


Ethics Approval

The study was approved by internal ethics board.

Consent

Written informed consent was obtained from the patient for publication of this abstract and any accompanying images. A copy of the written consent is available for review by the Editor of this journal.

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