

Publication of a paper describing a pilot study of peptide vaccines for patients with malignant glioma

An article that described a pilot study of the adverse events caused by the combined use of bevacizumab (Bev) and vascular endothelial growth factor receptor (VEGFR)-targeted vaccination for patients with malignant glioma has been published in *Vaccines*, by a research group of Prof. Toda at Keio University School of Medicine. VEGFR peptide vaccines used in this study are proprietary peptides of OncoTherapy Science.

A simultaneous blockade using both Bev, which targets circulating VEGF-A, and a multi-kinase inhibitor on VEGFRs was reported to be more effective for advanced solid cancers. However, previous clinical trials demonstrated a high adverse event rate in patients treated with the combination regimen. Additionally, no studies previously assessed treatment efficacy and safety using both VEGF-A and VEGFR-targeted agents for malignant gliomas.

Prof. Toda's group at Keio University School of Medicine has already reported VEGFRs peptide vaccination in patients with malignant gliomas, in which there was no apparent severe adverse event related with the vaccination¹⁻³). The combined use of Bev and VEGFRs vaccination may enhance the anti-tumor effect in malignant gliomas. In this study, the adverse event profile in patients treated with Bev after the vaccination was compared with the profile treated with the vaccination alone, demonstrating that there were no significant differences in the adverse event rates between the two groups. These results suggest that VEGFRs vaccination with Bev has the possibility of being applied as a combination therapy in the treatment of malignant gliomas.

The paper has been published online in *Vaccines*.

<https://www.mdpi.com/2076-393X/8/3/498>

In this study, OncoTherapy Science Inc. and Cancer Precision Medicine, Inc. contributed to the evaluation of CTL induction in the patients.

References

- 1) Shibao et al, A pilot study of peptide vaccines for VEGF receptor 1 and 2 in patients with recurrent/progressive high grade glioma. *Oncotarget* **2018**, 9, 21569–21579.
- 2) Kikuchi et al, A Pilot Study of Vaccine Therapy with Multiple Glioma Oncoantigen/Glioma Angiogenesis-Associated Antigen Peptides for Patients with Recurrent/Progressive High-Grade Glioma. *J. Clin. Med.* **2019**, 8, 263.
- 3) Tamura et al, Clinical and histopathological analyses of VEGF receptors peptide vaccine in patients

with primary glioblastoma—A case series. *BMC Cancer* **2020**, *20*, 196.