# Optune

Optune, which triggers antitumor activity by blocking the mitosis of glioma cells under the application of an alternating electric field, seems to be the only recently developed therapy with some efficacy reported on a large number of GBM patients. The need for early GBM diagnosis is emphasized since it could enable the treatment of GBM tumors of small sizes, possibly easier to eradicate than larger tumors. Ways to improve clinical protocols by strengthening preclinical studies using of a broader range of different animal and tumor models are also underlined. Issues related with efficient drug delivery and crossing of blood brain barrier are discussed. Finally societal and economic aspects are described with a presentation of the orphan drug status that can accelerate the development of GBM therapies, patents protecting various GBM treatments, the different actors tackling GBM disease, the cost of GBM treatments, GBM market figures, and a financial analysis of the different companies involved in the development of GBM therapies [1].

---

Zhou et al. document a 40-year-old male with recurrent anaplastic astrocytoma, IDH mutant and MGMT promotor methylation negative, who has well-tolerated continuous daily TMZ for 20 months at 100 mg per day for nearly the length of this period. A trial at 80 mg per day demonstrated disease progression with response upon return to 100 mg per day. Prior to the daily TMZ, the patient underwent three surgical resections, radiation therapy with concurrent TMZ according to the EORTC NCIC protocol, and subsequently bevacizumab in combination with use of the Optune device. Long-term survival of patients with recurrent malignant gliomas is uncommon, and currently no standard treatment strategies exist for these patients. We present this case to demonstrate the tolerability and dose dependency of prolonged daily TMZ dosing as a therapeutic option for recurrent anaplastic astrocytomas [2].

1)
Alphandéry E. Glioblastoma Treatments: An Account of Recent Industrial Developments. Front Pharmacol. 2018 Sep 13;9:879. doi: 10.3389/fphar.2018.00879. eCollection 2018. Review. PubMed PMID: 30271342; PubMed Central PMCID: PMC6147115.
2)
Zhou Z, Howard TA, Villano JL. Long-term daily temozolomide with dose-dependent efficacy in MGMT promotor methylation negative recurrent high-grade astrocytoma. Cancer Chemother Pharmacol. 2017 Aug 8. doi: 10.1007/s00280-017-3415-5. [Epub ahead of print] PubMed PMID: 28791452.