Abstract

PURPOSE OF REVIEW: Tumor treating fields (TTFields), an external therapeutic device with antimitotic properties, is a Food and Drug Administration approved treatment for recurrent glioblastoma (GBM) that has been reported to be efficacious in newly diagnosed GBM as well.

RECENT FINDINGS: Preclinical data show that TTFields is an antimitotic agent that additionally augments response to alkylator-based chemotherapy. In a single study, nearly 15% of recurrent GBM treated with TTFields alone display durable responses. Responses may be delayed, sometimes after an initial progression, and are highly correlated to treatment compliance and to survival. In newly diagnosed GBM, a preplanned interim analysis of the phase III randomized trial (standard of care with or without TTFields) showed a statistically significant effect of TTFields resulting in a net gain of 3 months in both progression-free and overall survival.

SUMMARY: TTFields is a novel noninvasive therapeutic option for recurrent GBM. The role of TTFields in newly diagnosed GBM will be adjudicated pending publication of the final results of the randomized EF-14 trial. If these results are compelling, this may result in accelerated approval and potentially a new standard of care for newly diagnosed GBM.

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