

Tumor-treating fields in glioblastoma: Indication of a benefit

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Glioblastoma is an aggressive brain tumor that usually occurs in late adulthood. Just two years after diagnosis, only 13.6 percent of patients are still alive. Standard treatment consists of surgery, followed by

radiation and chemotherapy. In addition, tumor treating fields (TTF), a new treatment method based on electrostimulation, has recently become available. The German Institute for Quality and Efficiency in Health Care (IQWiG) has therefore examined whether TTF offers advantages to newly diagnosed patients if it is used in addition to standard treatment. As the results of a recently published study show, this is in fact the case: Patients survive longer, and although TTF is burdensome, it does not impair quality of life.

New study compares TTF with chemotherapy alone

The Federal Joint Committee (G-BA) commissioned the Institute to carry out the benefit assessment in an accelerated procedure (rapid report) after the results of a study had been published in December 2017. This was a randomized controlled trial that included a total of 695 [patients](#) newly diagnosed with glioblastoma and conducted at 83 centres worldwide (EF-14 study).

After surgery or biopsy, all patients received radiotherapy plus [chemotherapy](#) with the chemotherapeutic agent temozolomide. All patients then received temozolomide again and two thirds of them (466) were additionally treated with TTF. The study lasted 24 months, but there was an interim analysis for the outcome of mortality after 18 months. Due to positive results in this analysis, participants in the control group were then free to switch to the TTF study arm.

Patients should apply TTF by themselves 18 hours daily

TTF is a non-invasive treatment method that uses alternating electric fields to inhibit [tumor](#) growth. TTF is conducted via ceramic gel pads on the head. For direct skin contact to be possible, the scalp must be shaved.

The electricity comes from a portable field generator. Patients can apply TTF themselves, preferably 18 hours a day.

Clear advantage for survival time

The mortality data from this one study show that the patients additionally treated with TTF lived on average (median) almost five months longer than without TTF.

As far as symptoms are concerned (morbidity), itching of the skin was more frequent in the TTF group. In contrast, the results for "cognitive performance" and "daily activities" were better than in patients who had not additionally received TTF.

No differences in quality of life and social function

According to the study, TTF showed neither advantages nor disadvantages with regard to the outcomes "health-related quality of life" and "social function." This is remarkable, because TTF itself can be burdensome for patients; for the longest time of the day, they must wear a conspicuous hood on their head connected to a wiring harness, while carrying a bag or rucksack for the generator.

However, the positive results of this one study cannot be applied to all patients with [glioblastoma](#). The participants were in a comparatively good physical condition, which enabled them to manage their daily lives without major restrictions. In addition, best possible tolerance of chemotherapy was ensured for all patients.

Overall, the Institute sees an indication of a greater benefit of TTF compared with standard treatment.

Process of report production

In November 2018, the Federal Joint Committee (G-BA) commissioned IQWiG to prepare the report in an accelerated procedure as a so-called "rapid report." Interim products were therefore not published or made available for a hearing. This rapid report was sent to the contracting agency, the G-BA, in May 2019.

More information: [N18-02] Tumour-treating fields in addition to current standard therapy for glioblastoma as first-line treatment - Rapid report: www.iqwig.de/en/projects-resul...id-report.10580.html

Provided by Institute for Quality and Efficiency in Health Care

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