Brain tumors: New therapy surprisingly successful

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The combination of two drugs produces a critical improvement in the treatment of certain brain tumours. This has been demonstrated by researchers at Bonn University working in co-operation with German and Swiss colleagues in a current study. They treated 39 patients who had been diagnosed with a so-called gliablastoma. The patients survived on average 23 months; with the standard therapy the mean would have been 14.6 months. Glioblastomas are the most aggressive and the commonest brain tumours. Left untreated, they prove fatal within just a few weeks. The study has been published in the *Journal of Clinical Oncology*.

Even today, glioblastomas are untreatable - something which even the new combination therapy cannot change. Nevertheless, Professor Dr. Ulrich Herrlinger of Bonn University´s Schwerpunkt Klinische Neuroonkologie speaks of an outstanding success: "This unusually manifest extension of the survival time has surprised even us. Our results offer the opportunity to improve our grip on this aggressive form of cancer. Now, further investigations involving a larger number of patients are needed to optimise this therapy. Planning for this is already in hand in Bonn".

Up to now, doctors have treated glioblastomas using radiotherapy with concomitant chemotherapy. The "gold standard" for this for the last few years has been the active agent temozolomide. This is still celebrated as the most important breakthrough in the treatment of glioblastomas. The researchers combined this preparation with the drug lomustine. At the

same time, the patients were given radiotherapy. The 39 patients thus treated survived the tumour for an average of 23.1 months. With the standard therapy, this time is over one third shorter. Seven patients even survived for over four years.

Genes decide the Success of the Therapy

It would appear that certain changes in the genotype are critical for the success of this therapy. "With eleven participants in the study, the information of one gene had been subjected to a characteristic modification", Ulrich Herrlinger declares. "These patients survived on average a good 34 months. With the other patients, these drugs appeared to bring no apparent advantage vis-à-vis pure radiotherapy - at least, not in the dosage we tested. It is possible that a simple gene test could decide for whom a concomitant chemotherapy might be of benefit". One disadvantage of the new method are the side-effects. However, these mostly occur during the several months of the treatment phase. "After that they normally disappear completely, and the patients have no further complaints about them", Herrlinger stresses.

Working in co-operation with the Life&Brain-Zentrum in Bonn, the search is now on for more compatible, more effective, drugs. "Amongst other things, we now want to use cell cultures from original tumours to study precisely what the preparations we used in the study really effect", Dr. Martin Glas, one of the authors of the study, declares.

More information: *Journal of Clinical Oncology* (doi: 10.1200/JCO.2008.19.2195).

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