Glioblastomas represent almost 50% of malignant brain tumors in adults, and range among the most lethal cancer types. Approximately three in 100,000 people a year are diagnosed with a glioblastoma.

These tumors mainly affect patients in later life, but can occur in younger adults and even children. Due to the aggressive nature of this tumor, which invades the brain by infiltration and destroys healthy brain tissue, glioblastomas lead to a significantly reduced life span with sometimes considerable loss of quality of life.

Almost half of the patients die in the first year of diagnosis, despite the use of a broad therapeutic approach including brain surgery, radiotherapy and sometimes several courses of chemotherapy. Yet, a small percentage of up to 5% of all patients suffering from glioblastoma may survive for more than five years. These patients are referred to as long-term survivors.

The reasons leading to this survival benefit in this heterogeneous patient group have not been fully identified so far. These patients are now the focus of a large international comprehensive study, assessing potential clinical and biological factors of this long-term survival that may contribute to improved survival in glioblastoma patients in general.

Considering the rareness of glioblastoma long-term survivors, a multicenter approach, involving a large number of clinical centers collecting patient data, is required.

To this aim end, the Brain Tumor Funders’ Collaborative (BTFC) is now funding a new research network with a generous grant of US $2,000,000.

The BTFC is a strategic partnership of five private philanthropic and advocacy organizations in the US and Canada: the American Brain Tumor Association, Brain Tumor Foundation of Canada, Children’s Brain Tumor Foundation, James S. McDonnell Foundation, and the Sontag Foundation.

The study consortium comprises 24 leading centers for neuro-oncology worldwide, including centers in the US, Australia and Europe. The study will be performed under the lead of the Brain Tumor Group of the European Organisation for Research and Treatment of Cancer (EORTC, a non-profit association which aims to conduct, develop and coordinate clinical and translational research for the treatment of brain tumors) and the Brain Tumor Center at the University Hospital Zurich.

Over a period of two years, the participating medical researchers will collect extensive clinical data from over 400 patients who survived their disease for more than five years. They will record additional information including patient histories and health-related data, and perform extensive neurocognitive assessments to allow for a better understanding of the implications of the disease as well as the therapies in affected patients.

Tumor tissue and blood samples from these patients will be collected to study the genetic and immunologic features of glioblastomas. Moreover, an analysis of all neuroimaging studies available from the
selected patient group will be performed, assessing tumor growth patterns and development by different imaging tools. All the acquired information will later be compared to the data set of a reference cohort of glioblastoma patients who have not become long-term survivors.

The Central Swiss Ethics Committee has approved the study protocol, and within the next months, all patients identified so far for study enrollment in all participating centers will be registered at the EORTC. The collected clinical data will be inserted in a large database for further comparative analysis. In parallel, all available tissue samples will be catalogued in a central biobank in Germany, and sorted for the planned molecular and genetic investigations. First results of these investigations are expected by the end of 2016.

The knowledge gained from this study will allow for a better understanding of the disease, and should help develop better treatment strategies for all glioblastoma patients in the future.