Participation in the International CPT-SIOP Registry: Information for Patients and Patients' Families

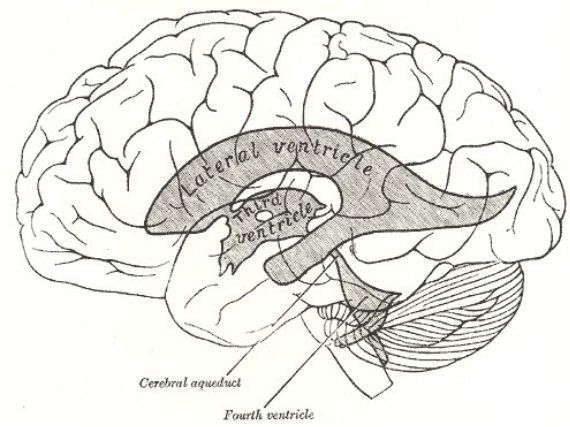
Stamp / letterhead of treating institution

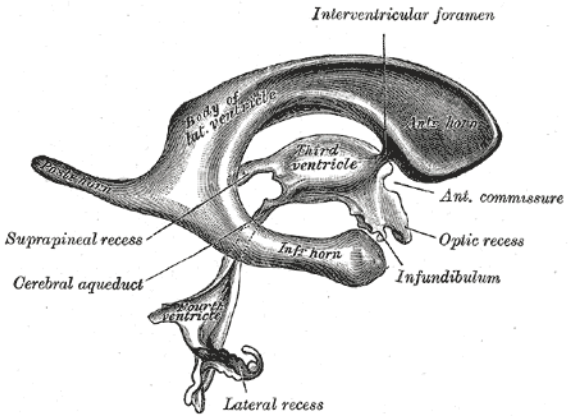
Dear patient, dear parents,

your physician has diagnosed you / your child with a choroid plexus tumor, a very rare brain tumor. With surgery and, if necessary, with additional chemotherapeutical measures and / or radiation therapy most choroid plexus tumors can be cured. This document is meant to inform you about choroid plexus tumors and the international choroid plexus tumor registry (CPT-SIOP Registry). It should supplement but not substitute the information provided to you by your treating physician. It does not contain instructions for the treatment of choroid plexus tumors.

What is a tumor? A tumor is tissue which grows at a time and in a location of the body where it is not supposed to grow. Like all tissues, a tumor is made out of cells. These cells share many characteristics with normal body cells, from which they arise. Tumor cells, however, differ from normal cells in that they keep proliferating even when this is not beneficial for the remainder of the organism. Regulatory mechanisms which stop proliferation in normal cells are not functioning enough in tumor cells, while mechanisms making them grow are over-active. Various tumor types comprise a large spectrum with regards to how much they differ from normal cells. At one end of the spectrum are benign tumors. In general, these tumor cells closely resemble certain types of normal cells. They grow slowly, do not infiltrate surrounding normal tissue, and they almost always stay in the place of their origin. At the other end of the spectrum is the malignant tumor, which is also called 'cancer'. These tumor cells proliferate quickly, infiltrate normal tissue, and can separate from the original tumor, adhere in a different place of the body, continue to grow there and form a second tumor in this place. These distant tumors are called 'metastases'. Choroid plexus tumors comprise the complete spectrum.

What is the choroid plexus? Choroid plexus is normal tissue in the brain which produces cerebral spinal fluid. It is located in fluid spaces at the center of the brain, which are called 'ventricles'. There is a lateral ventricle on the right, and one on the left, as well as a third and a fourth ventricle at the middle of the brain. The cerebral spinal fluid is a clear, water-like fluid which slowly flows from the lateral to the third and then to the fourth ventricle, after which it leaves the middle of the brain to be reabsorbed in the tissue surrounding the central nervous system. As an illustration of the ventricular cavities in the brain see the figures below (right: drawing of a cast of the human ventricular system by C.M. Retzius; source: http://www.bartleby.com/107/pages/page830.html).





How frequent are choroid plexus tumors? Plexus tumors are very rare. During the last years an average of thirty patients per year were reported to the German CPT-SIOP Study Office, ten per year in Germany. About 1 to 4% of childhood brain tumors are plexus tumors. Since most of them occur already in infancy and early childhood, the percentage within this age group is considerably higher (up to 13% in the first year of life). There are three subgroups: benign choroid papillomas, malignant choroid plexus carcinomas, and, in between in terms of malignancy, atypical plexus papillomas. The frequencies of their occurrence are roughly equal among the three types.

What is the cause of choroid plexus tumors? In many patients with cancer the exact cause is not known; in many cases it is a combination of several factors. Choroid plexus tumors probably do not arise from cysts or inflammations also affecting the choroid plexus. There is evidence for inherited causes in the context of the so-called Li-Fraumeni syndrome. In affected families, breast cancer, sarcoma, leukemia, and other brain tumors are more frequent. It is caused by an alteration of the p53 gene.

Is the tumor deadly? Yes - if there was no treatment, a fatal outcome from the disease is most likely. But this tumor can be treated, and the treatment will quite frequently be successful. The likelihood of a successful outcome depends on many variables, such as the histological characteristics of the tumor, the age of the patient, the location and size of the tumor, and whether or not the tumor has already spread (metastasized). Overall, about half of the patients survive for 10 or more years after the diagnosis, which comes close to a cure from the tumor disease. The two most important factors which determine whether or not an individual will be in the group of survivors, are the microscopic picture of the tumor (benign or malignant, papilloma or carcinoma), and if the tumor could be completely surgically removed. Patients who have choroid plexus papilloma, which can be completely removed, have an excellent prognosis when compared to other tumor diseases. In most of these patients, the tumor will not recur, and even with recurrence, it might still be possible to treat it successfully. On the other end of the spectrum are patients with choroid plexus carcinoma in the case that it cannot be surgically removed completely. Without further treatment such as irradiation and chemotherapy, these patients will most likely die.

What is known about treatment results in choroid plexus tumors? In spite of the rareness of these tumors, there is a large number of smaller case series, or single case reports published in the literature. In this respect, the CPT-SIOP 2000 Study, which has been closed in Germany in March 2010, represents the largest data collection worldwide and serves as the starting point for the

international CPT-SIOP Registry. For CPT-SIOP-2000 Study, preliminary analyses have been performed. Taking all information together, it can be concluded that surgical tumor removal is highly beneficial for the patients. In specific situations, additional non-surgical treatment, such as chemotherapy or radiation therapy, is helpful. The responsible physician on site will help you with the decision about which therapy to choose.

What is the purpose of the CPT-SIOP Registry? The Registry collects clinical information about this rare tumor to gain new insights into the course of the disease and to improve its treatment in the future. The documentation captures data which are gathered in the treating facilities, provided that the tumors are diagnosed and treated according to the guidelines of the German Society for Pediatric Oncology (GPOH). This includes standardized diagnostic reference reviews, as recommended for all children with brain tumors treated within the German HIT treatment network. The reviews for MR or CT imaging are at the Universitätsklinikum Würzburg, Abteilung für Neuroradiologie, Josef-Schneider-Str. 11, 97080 Würzburg, the reviews of histology at the Universitätskrankenhaus Münster, Institut für Neuropathologie, Domagkstr. 19, D-48129 Münster or at the Universitätsklinikum Bonn, Institut für Neuropathologie, Sigmund-Freud-Str. 25, 53105 Bonn, and the cytological examinations of the cerebral spinal fluid at the Universitätsklinikum Hamburg-Eppendorf, Martinistr. 52, 20246 Hamburg. The Registry neither requires extra visits and examinations nor additional accompanying scientific investigations. If your physician suspects a Li-Fraumeni syndrome and recommends human DNA diagnostics, he / she will inform you and provide advice on this typ of diagnostics according to the applicable law in your country, if necessary.

Privacy Rules – What happens to your personal data?

All personal data obtained for the CPT-SIOP Registry, including diagnostic findings, are subject to medical confidentiality and data protection legislation. They will be transferred–without encryption–to the German Study Office at the University Hospital Hamburg-Eppendorf, to the pathology and radiology reference centers of the CPT-SIOP Registry in Münster, Bonn and Würzburg (see above), respectively, and, in case of patients within Germany, to the German Childhood Cancer Registry and to the cancer registry of the respective Bundesland. They will be recorded in paper form and on electronic media and pseudonymized (pseudonymization replaces personal data (such as name and other recordings that can be allocated to a specific person) with a number code, allowing allocation only by authorized persons). Use and analysis of the data will occur only after pseudonymization. This is also true for the passing on, if any, of the data for research purposes to further institutions and for the publication of research results.
You are entitled to request particulars about your / your child's personal data stored in the CPT-SIOP Registry. You also have the right to be either notified, or exclude such notification, about possible results within the study regarding your own / your child's personal data. If necessary, the principal investigator (director) of the Registry will ask you for your decision on that.
The data recordings are kept for at least 10 years; if possible, even longer. This is especially important for childhood cancers to allow a long-term follow-up in order to get more knowledge about long-term consequences for health state and quality of life of affected individuals.
If you change your mind later, this would be no problem. Upon withdrawal of your consent your / your child's personal data collected so far will be either deleted or anonymized (the allocation code will be destroyed and the data set will be changed in such a way that allocation is no longer possible at all or only with an unreasonably high effort.)

Your questions and notes: