First International Choroid Plexus Tumor Research Meeting February 14-15, 2009 - Houston, Texas

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Choroid plexus tumors are rare brain tumors originating from the choroid plexus epithelium, which is the gland producing cerebrospinal fluid. The tumor mostly occurs in the infants and has various degrees of malignancy. Choroid plexus papillomas are considered benign although accumulating evidence shows that they can metastasize and become more malignant. The term atypical choroid plexus papilloma was recently formed by the WHO classification committee and lacks a sufficient description of clinical behavior, yet. Choroid plexus carcinomas (WHO grade III) are known to be malignant.

The biological nature of these tumors has been investigated in depth in the past century, when the discovery was made that SV40 virus causes choroid plexus tumors in rodents, at least up the level of the molecular technology known then. Collaborative clinical trials are most run in national groups and with standardized biostatistical methodology. Until 2000 no group was able to launch a choroid plexus tumor study, because the patient numbers calculated as required for such biomathematics did not exist. In 2000 the international pediatric oncology society SIOP allowed a study to be started, which has since, with increasing accrual rate per year, collected valuable information and continues to run successfully. The formal question of this protocol which of two chemotherapeutic agents (cyclophosphamide or carboplatin) is more beneficial for choroid plexus tumor patients is yet unanswered and the protocol remains open. However, additional information generated with the help of that study group have resulted in numerous successful projects such as neuropathology studies and lessons learned about diagnostic and neurosurgical procedures. Other prospective protocols allowed choroid plexus tumor patients to be enrolled. Most of those are so called "baby protocol" aiming to treat various histological diagnoses with the same chemotherapy in the hope to reduce radiation exposure to the brain. The most successful of them is called "head start", and runs outside of any national group. Furthermore, large hospitals such as Toronto in Canada and Warsaw in Poland have accumulated relevant institutional experience. Yet all these data remain unreported.

Most recently, choroid plexus tumor research has grown in various fields. This includes novel biomathematical methods, which allow to analyze published information, as well as prospectively collected unpublished data in new ways, and thereby to overcome the roadblock generated by the small patient numbers. This also includes genetic information providing further insights in various involved pathways including TWIST-1, p53, PDGF and others. Finally, experimental models have been reactivated. Various laboratories culture choroid plexus tumor cells and test chemotherapeutic agents in them. It was time to have a meeting to bring those growing disciplines together, exchange ideas, and develop the next choroid plexus tumor protocol. The meeting included members of the traditional clinical groups of SIOP C.O.G. and head start, as well as all involved medical and basic science disciplines.

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