The Pediatric Brain Tumor Center has initiated two new clinical trials aimed at better understanding the long-term side effects of treatment.

How Does Radiation Therapy Affect Cerebrovascular Structures in Children?

A recent study at UCSF revealed that children with brain tumors who receive radiation therapy to the brain and/or neck are at a significantly higher risk for stroke, and that the rate of recurrent stroke increases over time. The cumulative incidence of recurrent stroke is 21% (95% CI 7.5-53) at 1 year after the first stroke, 29% (95% CI 12-61) at 5 years, and 43% (95% CI 19-78) at 10 years.

Another investigation, using data from the Childhood Cancer Survivor Study, showed that survivors of pediatric cancer who have been treated with radiation therapy have a higher risk for stroke that is dose-dependent and increases with age. Modifiable risk factors such as hypertension and diabetes further increased the stroke risk and should be monitored carefully in pediatric brain tumor survivors to reduce the risk of stroke. 1, 2

Pediatric neuro-oncologist Sabine Mueller and pediatric stroke specialist Heather Fullerton, director of the Pediatric Stroke and Cerebrovascular Disease Center at UCSF Benioff Children's Hospital, have now designed a prospective trial – RadART-PRO – to study the rate of radiation-induced vasculopathy, as well as stroke and stroke recurrence, in children who received radiation to the brain or neck. This study is currently offered at UCSF, Children's Hospital Central California, and Children's Hospital & Research Center Oakland.
Can a New Neurocognitive Training Program Help to Minimize the Effects of Therapy on Brain Function?

There is significant evidence that children with brain tumors, particularly those who receive radiation therapy at a young age, suffer from severe neurocognitive deficits. Currently there are no specific treatment options available for these children.

Dr. Mueller and fellow pediatric neuro-oncologist Anuradha Banerjee, in collaboration with Posit Science, Inc. (San Francisco, CA), will investigate whether children with brain tumors can complete a computerized neurocognitive training program designed to improve visual processing speed, auditory processing speed, and short-term memory. Children will undergo neurocognitive assessments before and after the training, and will be followed for two years. The training program, called the Neurocognitive Brain Tumor Study, consists of several game-like exercises. Children will undergo the training program for 45 minutes each day, five days a week, for a total of two months.

For more information or to enroll a patient in these trials, contact Dennis Aguiling by calling (415) 353-9387 or by e-mail at AguilingD@peds.ucsf.edu.


News & Events

UCSF now a Phase I Trial Site for the Children’s Oncology Group

In November 2011, UCSF began offering phase I clinical trials for pediatric patients with brain tumors through the Children’s Oncology Group (COG). We currently have 10 COG trials open for enrollment to provide children with new opportunities for combating their disease.

Multi-disciplinary Clinic

At UCSF, pediatric patients are treated by a multi-disciplinary team of experts to manage their health. Now pediatric patients and their parents can meet with these experts in one day at a multi-disciplinary brain tumor clinic. Specialists in neuro-oncology, neurosurgery, neuroendocrinology, physical rehabilitation, school liaisons and social work are available in the same location on the same day to develop comprehensive treatment plans and answer questions.

Parent Education Day

On April 28, 2012 UCSF will host Parent Education Day to provide information and answer questions from parents of children with cancer. The event will take place at the UCSF Mission Bay Conference Center and will cover all types of pediatric cancers, including pediatric brain tumors. For more information, call: (415) 476-3138.
Pediatric Brain Tumor Clinical Trials

Questions about patients’ participation in the following clinical trials can be directed to Dennis Aguiling by calling (415) 353-9387 or by e-mail at AguilingD@peds.ucsf.edu. Alternatively, to contact the nurse practitioner in charge, please call (415) 476-3831.

**Newly Diagnosed Tumor**

**High-Grade Glioma**

A randomized phase II/III study of vorinostat (IND# 71976) and local irradiation OR temozolomide and local irradiation OR bevacizumab and local irradiation followed by maintenance bevacizumab (IND # 7921) and temozolomide in newly diagnosed high-grade glioma (Children’s Oncology Group Study ACNS0822).

**Ependymoma**

Phase III randomized trial of post-radiation chemotherapy in patients with newly diagnosed ependymoma ages 1 to 21 years (Childrens Oncology Group Study ACNS0831).

**Medulloblastoma and Primitive Neural Ectodermal Tumor (PNET)**

A study evaluating limited target volume boost irradiation and reduced dose craniospinal radiotherapy (18.00 Gy) and chemotherapy in children with newly diagnosed standard risk medulloblastoma: a phase III double randomized trial (Children’s Oncology Group Study ACNS0331).

**Recurrent Disease**

A phase I and pharmacokinetic study of AZD6244 for recurrent or refractory pediatric low-grade glioma (PBTC 029).

A phase I pharmacokinetic trial of PTC299 in pediatric patients with refractory or recurrent CNS tumors (PBTC-031).

**Trials Studying Late Effects of Treatment**

Neurocognitive brain tumor study. This is a prospective UCSF study to test the feasibility of a computerized neurocognitive training program in children with brain tumors.

Neuropsychological, social, emotional and behavioral outcomes in children with cancer (Children’s Oncology Group Trial ALTE07C1).

**Pediatric Brain Tumor Clinical Trials in Development**

A Phase I/II study of suberoylanilide hydroxamic acid (SAHA, Vorinostat) and local irradiation, followed by maintenance SAHA in children with newly diagnosed diffuse intrinsic pontine gliomas (DIPG) (Children’s Oncology Group Trial ACNS0927).

A Phase I study of temsirolimus in combination with irinotecan and temozolomide in children, adolescents, and young adults with relapsed or refractory solid tumors (Children’s Oncology Group Trial ADVL0918).

A phase I study of MK-2206, an AKT inhibitor, in pediatric patients with recurrent or refractory solid tumors or leukemia (Children’s Oncology Group Trial ADVL1013).
The Pediatric Brain Tumor Center (PBC) at UCSF Benioff Children’s Hospital offers highly specialized care for growing brains. The Pediatric Brain Tumor Center is the component of the PBC dedicated to providing the most advanced treatments to children with brain tumors.

To schedule an appointment or refer a patient, call (415) 353-7500