Autopsy Tissue Needs
Laboratory of Alberto Broniscer, M.D.
St. Jude Children's Research Hospital

Research Interests

Since very little is known about the biology of diffuse brain-stem glioma, our goal is to undertake a systematic analysis of DNA abnormalities, and of RNA and protein expression in prospectively collected fresh-frozen and fixed tumor samples and correspondent normal tissue from patients affected with this tumor.

Our objectives are to:

- Perform genome-wide analysis of DNA gains and losses and RNA expression in tumor samples and normal tissue from patients with diffuse brain-stem glioma.
- Identify regions of genomic gain or loss using either array-comparative genomic hybridization or single nucleotide polymorphism arrays.
- Investigate genome-wide expression patterns of RNA derived from tumor samples and normal tissue from these patients via Affymetrix gene-expression profiling.
- Validate the results of the genome-wide analysis by conducting further evaluation of candidate genes or by investigating the expression of relevant gene products at the RNA and protein levels.
- Perform analysis of mutations in candidate tumor-suppressor genes and oncogenes using direct sequence analysis of tumor DNA and confirm the tumor-specific nature of these mutations by analyzing the correspondent constitutional DNA.
- Confirm genomic gains or losses identified by means of fluorescence in situ hybridization (FISH) performed on tissue microarray using non-neoplastic brain tissue from each patient as control when available.
- Explore protein expression patterns identified by immunohistochemistry or western blot and compare them to normal brain-stem tissue.
- To obtain a follow-up (questionnaire and/or telephone interview) after autopsy with parents, legal guardians, or family members of research participants in the United States to assess aspects associated with this procedure, including potential benefits and drawbacks.

Selected publications

Broniscer, Alberto, Justin N. Baker, Suzanne J. Baker, Susan N. Chi, J. Russell Geyer, E. Brannon Morris, and Amar Gajjar. “Prospective Collection of Tissue Samples at Autopsy in Children with Diffuse Intrinsic Pontine Glioma.” *Cancer* (June 29, 2010).

Broniscer Alberto, Fred H. Laningham, Robert P. Sanders, Larry E. Kun, David W. Ellison, and Amar Gajjar. “Young Age May Predict a Better Outcome for Children with Diffuse Pontine Glioma.” *Cancer* 113 no. 3 (August 1, 2008): 566-72.

Broniscer, Alberto, John C. Panetta, Melinda O’Shaughnessy, Charles Fraga, Feng Bai, Matthew J. Krasin, Amar Gajjar, and Clinton F. Stewart. “Plasma and Cerebrospinal Fluid Pharmacokinetics of Erlotinib and Its Active Metabolite OSI-420.” *Clinical Cancer Research* 13 (March 2007):1511-15.

Broniscer, Alberto, Suzanne J. Baker, Alina N. West, Melissa M. Fraser, Erika Proko, Mehmet Kocak, James Dalton, Gerard P. Zambetti, David W. Ellison, Larry E. Kun, Amar Gajjar, Richard J. Gilbertson, and Christine E. Fuller. “Clinical and Molecular Characteristics of Malignant Transformation of Low-Grade Glioma in Children.” *Journal of Clinical Oncology* 25 no. 6 (February 20, 2007): 682-89.

Autopsy Tissue Needed

We are in need of fresh-frozen and paraffin-embedded samples for the following diagnosis: diffuse intrinsic pontine glioma.

Contact Information

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