

germinoma be radiated without tissue. This view has fallen from favor. Our standard approach to various tumors of the pineal region and the third ventricle has been to perform a biopsy at the time of the third ventriculostomy. This approach reflects a gradual trend toward the goal of treating malignant tumors while deferring potentially damaging therapeutic interventions such as radiation and intensive chemotherapy.⁵

OUTCOME

The rate of cure for cerebellar astrocytomas is greater than 90 percent⁶ and reflects a benign pathology and a relatively straightforward surgical approach. Very few of these patients require any adjunctive therapy. Optic-pathway and hypothalamic gliomas can be managed with a combination of surgery and chemotherapy but also can recur, with devastating consequences. Finally, malignant tumors such as medulloblastomas are potentially curable but require a multimodal approach, with a combination of surgery, radiation, and chemotherapy. In the most favorable group of patients, who have achieved total resection, the outcome is a 70 percent survival rate at 5 years. This represents a tremendous advance, given that these tumors were virtually uniformly fatal 20 years ago. Future advances will arise from the combination of surgical techniques with newer chemotherapeutic agents, with or without radiation.

References

1. Crist WM, Kun LE. Common solid tumors of childhood. *N Engl J Med.* 1991;324:461-471.
2. Pollack IF. Brain tumors in children. *N Engl J Med.* 1994;331:1500-1507.
3. Hoppe-Hirsch E, Brunet L, Laroussinie F, et al. Intellectual outcome in children with malignant tumors of the posterior fossa: Influence of the field of irradiation and quality of surgery. *Childs Nerv Syst.* 1995;11:340-346.
4. Duffner PK, Horowitz ME, Krischer JP, et al. Postoperative chemotherapy and delayed radiation in children less than three years of age with malignant brain tumors. *N Engl J Med.* 1993;328:1725-1731.
5. Duffner PK, Cohen ME. Changes in the approach to central nervous system tumors in childhood. *Pediatr Clin North Am.* 1992;39:859-877.
6. Sgouros S, Fineron PW, Hockley AD. Cerebellar astrocytoma of childhood: Long-term follow-up. *Childs Nerv Syst.* 1995;11:89-96.

U of C to Open Dedicated Neurointensive Care Unit

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Neurointensive care is a relatively young neurological subspecialty that is dedicated to the management of patients with acute, disabling, and often life-threatening problems of the nervous system. Neurologists in this subspecialty also have a honed expertise in the prognostication of acute neurological problems; that is, the science and art of guiding medical decisions based on a patient's projected ability to recover from an acute injury to the nervous system balanced with the patient's/family's life perspectives and priorities.

Not many neurologists are subspecialists in neurointensive care, but new treatment options for many acute neurological problems have bolstered interest in the field. For example, most neurointensive care neurologists also are specialists in the management of acute stroke and have been at the forefront of testing new and exciting treatments for stroke with a variety of other specialists (such as stroke neurologists, interventional neuroradiologists, cerebrovascular neurosurgeons, critical care physicians, emergency medicine physicians, and vascular surgeons).

The University of Chicago is developing a dedicated Neurointensive Care Program to provide patients with the latest neurological treatments available. Some of the contemporary stroke therapies that already are available or soon will be available at the University of Chicago (U of C) include:

- Intravenous thrombolysis
- Intra-arterial thrombolysis
- Acute hypothermia
- Minimally invasive hematoma removal for intracerebral hemorrhage
- Surgical treatments for brain swelling after stroke

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The U of C offers an unparalleled opportunity to build clinical programs on a foundation of sound academic strength. For example, with respect to brain blood-flow problems (e.g., stroke), the U of C has a critical mass of people already dedicated to an improved understanding of and treatments for the problem, including experts such as:

- Neurologists (Drs. Richard Kraig, James Brorson, Jean-Paul Spire, and Stephen Small)
- Neurosurgeons (Drs. Bryce Weir and Loch Macdonald)
- Interventional neuroradiologists (Drs. Saeid Mojtahedi and Jordan Rosenblum)
- Vascular surgeons
- Emergency medicine physicians

In addition, the recently established Emergency Resuscitation Research Center will provide a rich source of collaboration among physicians and scientists at the U of C and Argonne National Laboratory to improve the understanding and treatment of low-blood-flow states, brain blood flow notwithstanding. The Neurointensive Care Program will build on these tremendous intellectual resources.

Other than stroke-related problems, neurointensive care specialists have expertise in the management of:

- Brain and spinal cord trauma
- Nerve and muscle problems that jeopardize breathing, such as Guillain-Barré syndrome and myasthenia gravis
- Unusual postinfection complications such as transverse myelitis (spinal cord inflammation) and acute disseminated encephalomyelitis (brain and spinal cord demyelination)
- Brain infections such as encephalitis and meningitis
- Brain swelling and increased intracranial pressure
- Persistent seizures
- Complex perioperative neurological problems
- Neurological prognostication
- Brain death

Neurointensive care specialists also serve as consultants to other physicians to assist in the management of critically ill patients with neurological complications. For example, patients with fulminant hepatic failure often develop acute, life-threatening cerebral edema while they await a liver transplant. Management of brain swelling in these patients is part of the expertise of neurointensive care neurologists. The ability to work closely with the top-notch liver transplant team at the U of C is another defining reason that this is an ideal place for building a Neurointensive Care Program. Furthermore, the well-respected critical care medicine group at the U of C is of the highest caliber and another major attraction to this medical center.

The mere presence of a dedicated Neurointensive Care Unit at the U of C is not enough; rather, it is the people and philosophy of care within the unit that will define the quality and uniqueness of the environment. By definition, neurointensive care is a team-oriented specialty. It requires fluid collaboration among doctors, nurses, unit secretaries, respiratory therapists, patient care technicians, nutritionists, pharmacists, social workers, case managers, therapists (physical, occupational, and speech), chaplains, and bioethicists. It is this multidisciplinary team approach with a balanced, compassionate attitude toward patients and their families that will be the signature of the U of C Neurointensive Care Unit's quality.

As a native and loyal Chicagoan, I appreciate the tremendous need for this kind of program in the Chicagoland area. I was impressed by the depth of commitment of the U of C leadership (Biological Sciences Division and Hospital) to enhancing the acute clinical neurosciences. My experience in building a highly successful clinical and academic program at The Cleveland Clinic Foundation, coupled with the U of C's commitment and the regional need for such services, gives me confidence that we will develop a world-class Neurointensive Care Program here. It undoubtedly will be an exciting step forward for the care of critically ill neurological and neurosurgical patients in the Chicago region. In addition, the program will serve as an international educational and academic resource to train others in the specialty and advance the field through research.

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