

# NEUROIMAGE

VOLUME 22, NUMERO 3  
DÉCEMBRE 2006

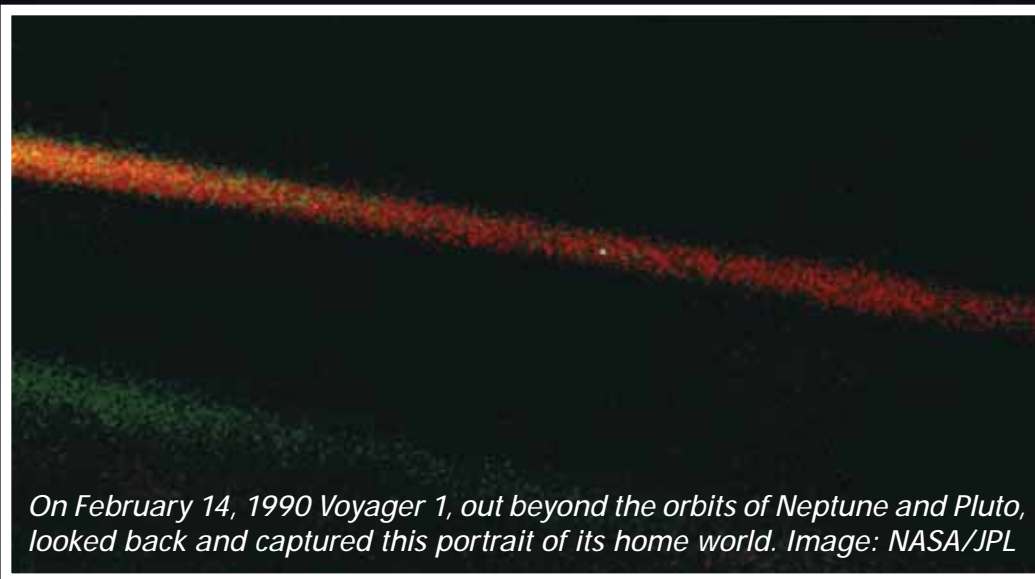
NEURORADIOLOGY  
MUHC-MNH

VOLUME 22, NUMBER 3  
DECEMBER 2006



## Season's Greetings

"La Sagrada Familia" cover designed by Jean-Paul Acco at Neurophotography



On February 14, 1990 Voyager 1, out beyond the orbits of Neptune and Pluto, looked back and captured this portrait of its home world. Image: NASA/JPL

**Look** again at that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant, every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every "superstar," every "supreme leader," every saint and sinner in the history of our species lived there – on a mote of dust suspended in a sunbeam.

Carl Sagan, *Pale Blue Dot*, 1994  
Planetary Report, November 2006

# Wishing You & Yours a Happy & Prosperous

# 2007

Greetings

此致

Afectuosamente

Filika

Bäst Hälsningar

Alsalam alaykum

Respetos Saluti affettuosi

Amicalement

Namaste

Cordialmente

O Genki De

敬意

Herzliche Gruesse

Saudações

 <http://www.mni.mcgill.ca/neuroimage/index.html>

*Quebec*



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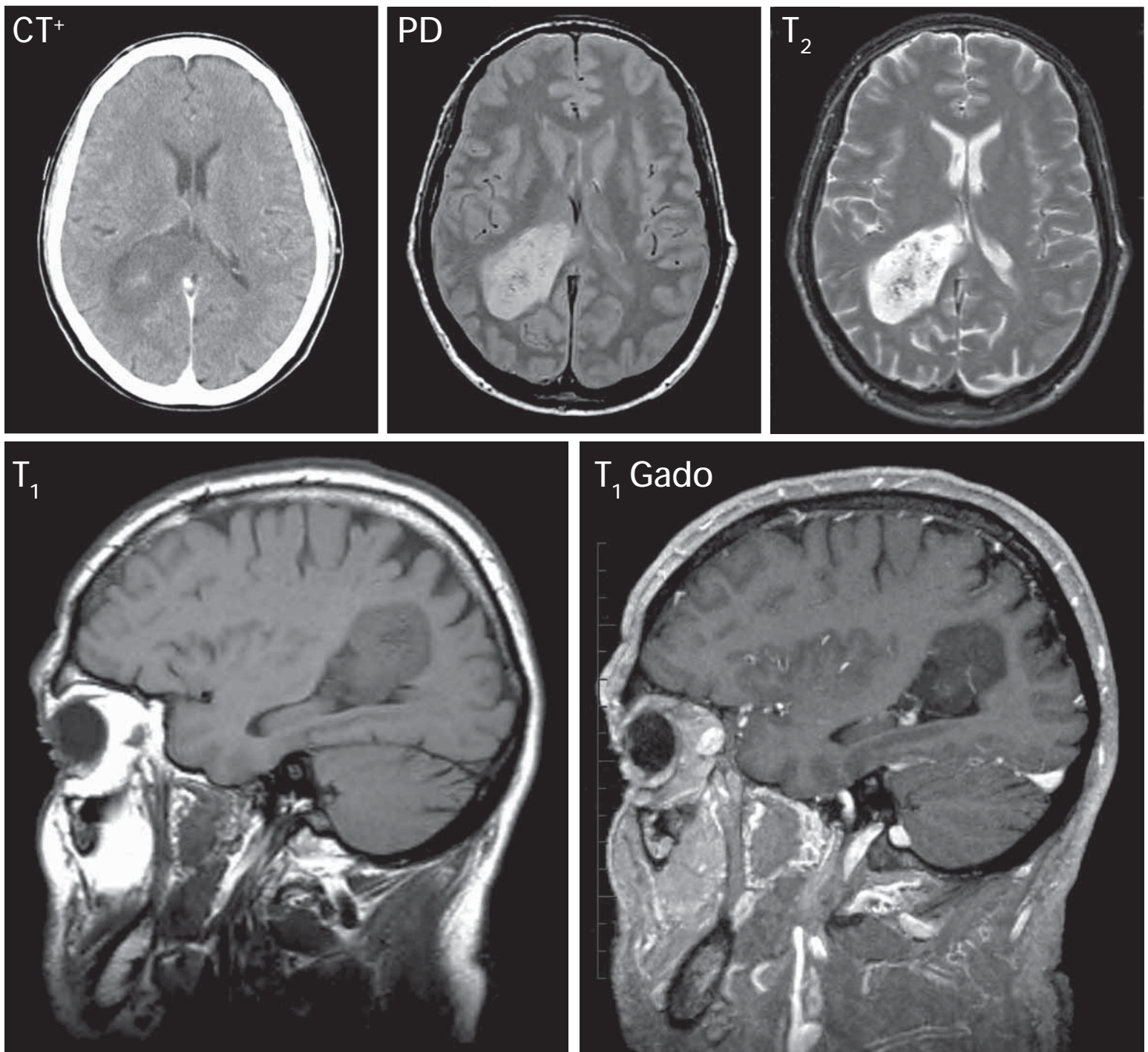
# SUBEPENDYMOMA AT UNUSUAL SITE

DRS.D. MELANÇON, M.C. GUIOT, L. SOUALMI AND R. LEBLANC

Subependymomas usually develop at the lower part of the 4th ventricle. When in the lateral ventricle, they appear near the foramen of Monro. They can also present in the spinal cord, but also very rarely.

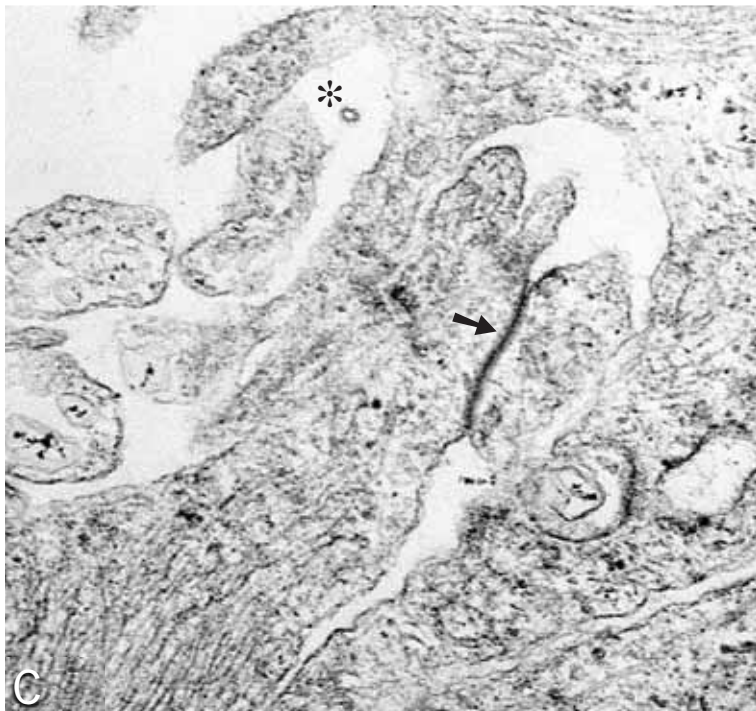
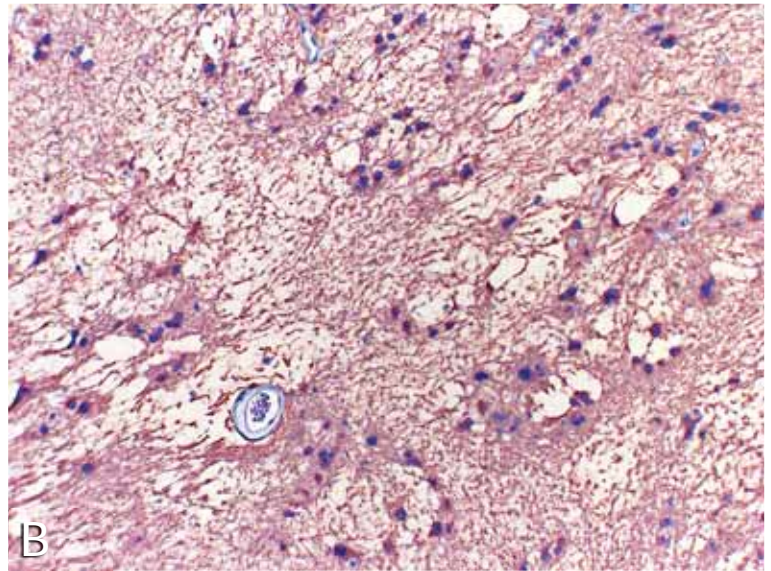
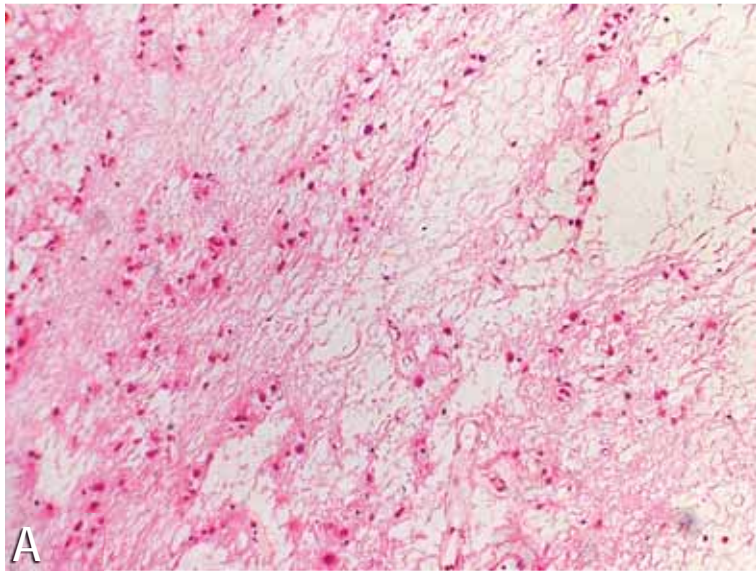
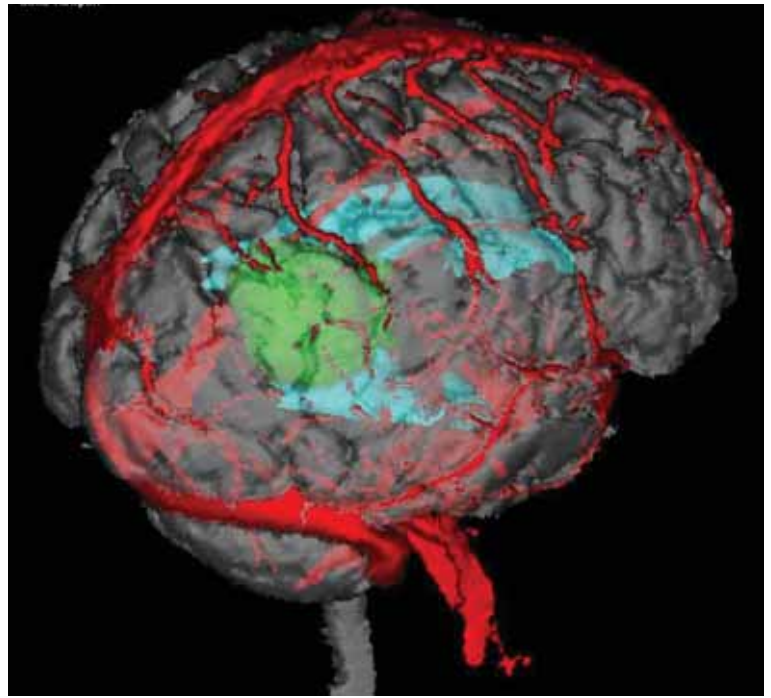
We present a case where the tumour developed marginal to the trigone of the right lateral ventricle.

A 59 year-old man sought consultation because of an episode of speech arrest associated with a feeling of general lassitude. Examination revealed slowness in performance of rapid alternating movements on the left side in the arm and in the leg, a phenomenon that had been present for the past ten years. The remainder of his general and neurological examinations were unremarkable and the patient had no recurrence of symptoms. CT and MRI scans demonstrated a lesion at the trigone of the right lateral ventricle. Fig.1 below



At surgery, a widened sulcus was identified (Figure 2) and its relationship to the underlying tumor was verified by intraoperative ultrasound. The sulcus was freed of its arachnoid trabeculations and a small incision was made at the bottom of the sulcus and continued through the white matter to give access to the tumor. The tumor was broadly attached to the undersurface of the ependyma. It was relatively avascular except for its central component which contained numerous elongated flaccid vessels in a spider web arrangement originating from the ependymal surface.

*Figure 2 (to the right)*  
*Neuronavigation image: tumour in green*



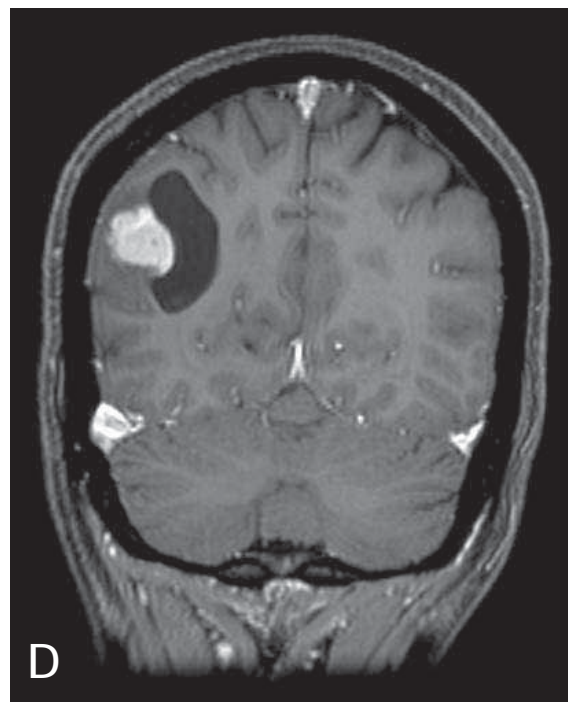
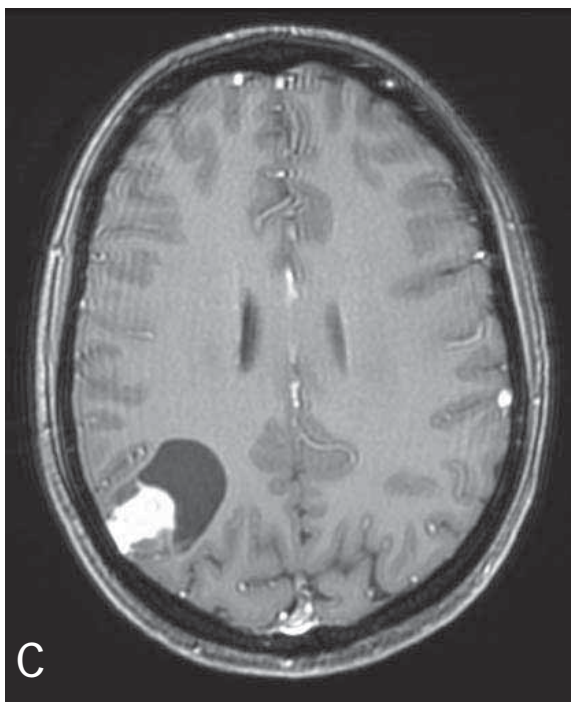
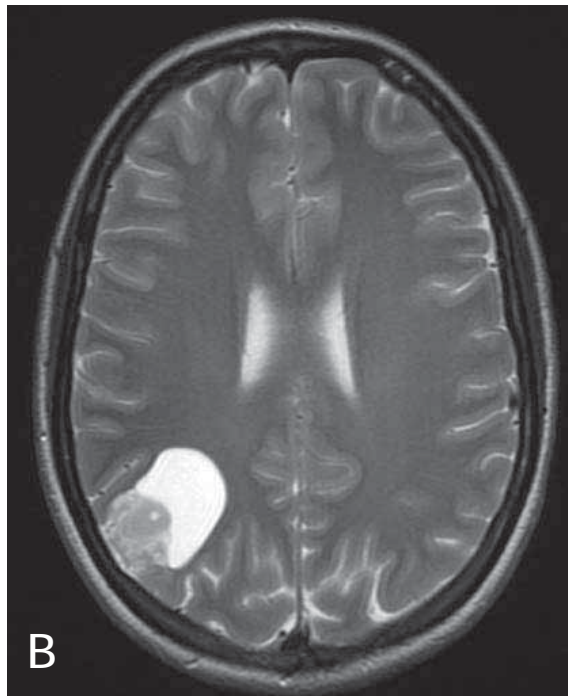
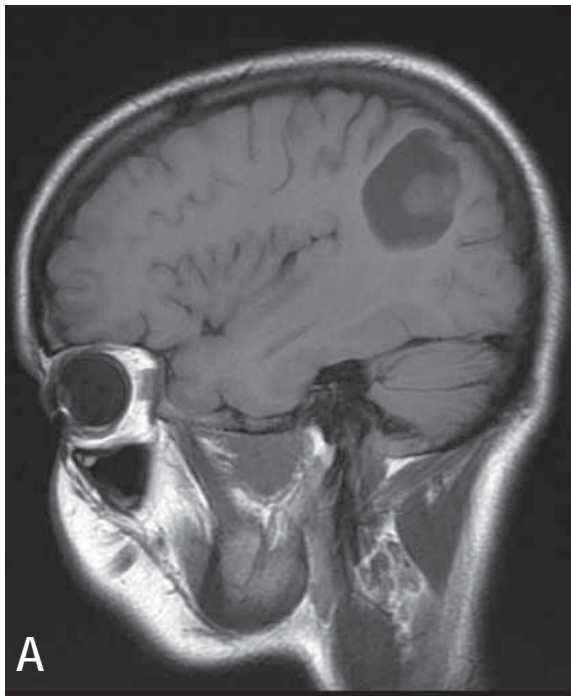
*Figure 3 (above and to the left) (A) H&E stain, (B) GFAP immunohistochemistry, (C) electron microscopy: the arrow represents the cilia, and the asterisk (\*) represents the zipper junction.*

The patient's subsequent course was unremarkable and entirely satisfactory. Histopathological examination revealed irregular clumps of cells having various sized nuclei, some of which were rather large. These were within a loose fibrillary background which in some areas appeared to be mucoid. Many of the blood vessels showed markedly thickened walls, some of which were laminated. The tumor cells were positive for GFAP and synaptophysin. The proliferative index was zero. Final histopathological diagnosis was of subependymoma.

# ASTROCYTOMA

DRS. F. DISCEPOLA, M.C. GUIOT, L. SOUALMI AND A. OLIVIER

**A** 29-year-old right-handed woman with no past medical history who developed non-specific neck pain and headaches subsequent to a low speed motor vehicle accident. Her symptoms led her to consult the emergency room at a remote hospital. At the time of her presentation, she denied experiencing seizures. Her physical exam demonstrated no neurological deficits. All blood work obtained was unremarkable. She underwent a non-enhanced CT scan, which demonstrated a mixed solid and cystic mass lesion residing within the right parietal lobe. The patient was then referred to a neurosurgeon at the Montreal Neurological Institute for further imaging and assessment.



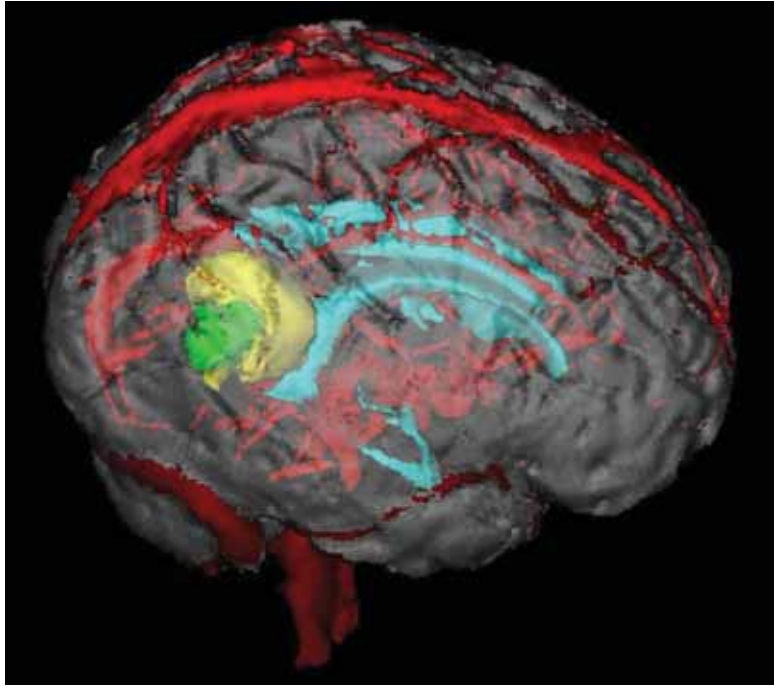
## Imaging Findings

Magnetic resonance imaging characterized the lesion as a single 3.5 x 3.7 x 2.6 cm intraparenchymal mixed solid and cystic mass lesion located within the right parietal lobe. There was no peri-tumoral associated vasogenic edema or necrosis, nor was there ring enhancement of the cystic portion of the mass. The solid component followed iso T1 and T2 signal, and enhanced avidly post gadolinium infusion. (Figure 1)

**Figure 1**  
(A) Sagittal T1 image without gadolinium. (B) Axial T2 image. (C) Axial T1 post gadolinium. (D) Coronal T1 post gadolinium. Both gadolinium images show avid enhancement of the solid portion of the mass lesion.

## Discussion

A pilocytic astrocytoma is the most common pediatric central nervous system glial neoplasm, and the most common pediatric cerebellar neoplasm. Pilocytic astrocytomas usually present within the first two decades of life. The cerebellum, optic nerve, optic chiasm, and hypothalamic regions are the favored locations for the tumor, however it can also be found within the cerebral hemispheres, ventricles, and spinal cord. When the lesion is reported in a cerebral hemisphere, the temporal lobe is the most common site. The nature and duration of the patient's symptoms is related to the specific location of the tumor.

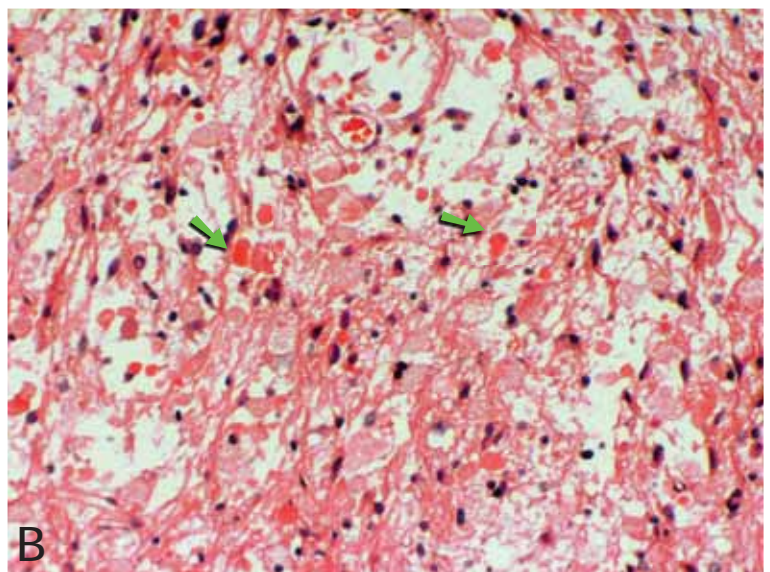
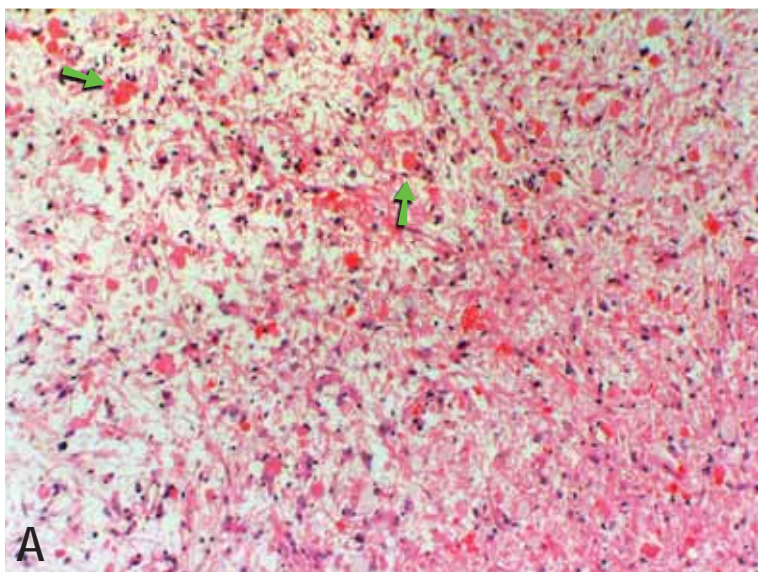


**Figure 2** (above) Neuronavigation image: nodule in green and cyst in yellow

Classical imaging features include a mixed cystic and solid mass with avid enhancement of the solid component of the mass. This appearance is seen in two-thirds of cases. A mass with enhancement of the cyst wall in conjunction with the mural nodule, necrosis with non-enhancing portion of the mass, and a predominantly solid mass without a cystlike component, are the less common imaging features of this neoplasm. Peri-tumoral edema is rarely noted. Surgical resection is the treatment of choice for this neoplasm with up to 79 % twenty-year survival. Radiation and chemotherapy is reserved for recurrent tumors, and tumors situated within the optic chiasm and hypothalamus.

**References** Koeller KK & Rushing EJ. From the Archives of the AFIP: Pilocytic Astrocytoma: Radiologic-Pathologic Correlation. *RadioGraphics* 2004; 24: 1693-1708.

The differential diagnosis for the neoplasm presented in this case included a pleomorphic xanthoastrocytoma. The patient underwent a right parietal craniotomy with complete resection of the tumor without complications.



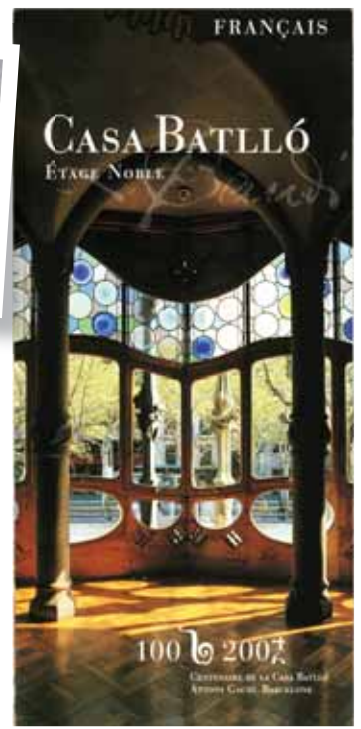
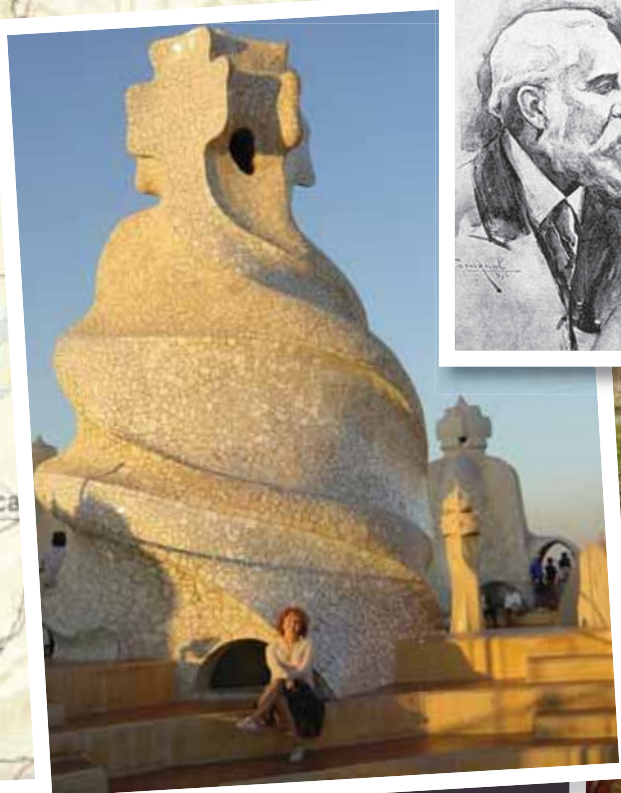
**Figure 3** (above) The figure on this page shows that the H&E stain shows a loose fibrillary glial proliferation with presence of numerous Rosenthal fibers and granular eosinophilic bodies (arrows).

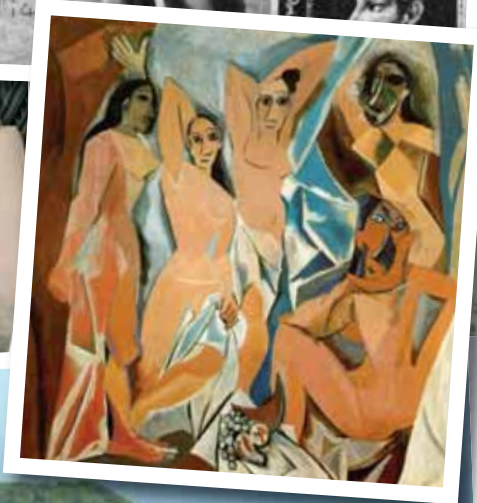
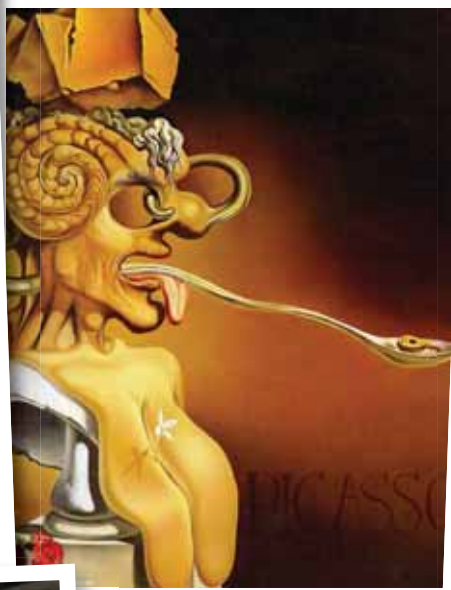
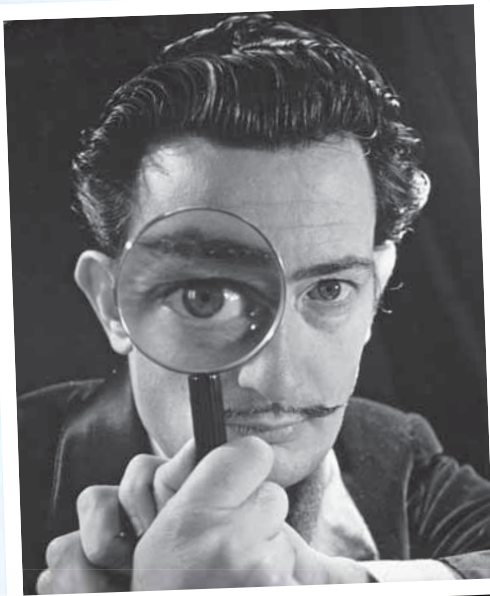
Bay of Biscay

# CATALUNYA

Agenc *Quebecker*

This fall, I had the pleasure of visiting Barcelona and surrounding Catalunya. I have included some photographs and images of that wonderful region of Spain, rich of such illustrious men as Gaudi, Dali, Miro and Picasso. I have also enjoyed relaxing on the beaches of la Costa Brava in between visits to Figuerés, Sadaqués, Montserrat and Girona.





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