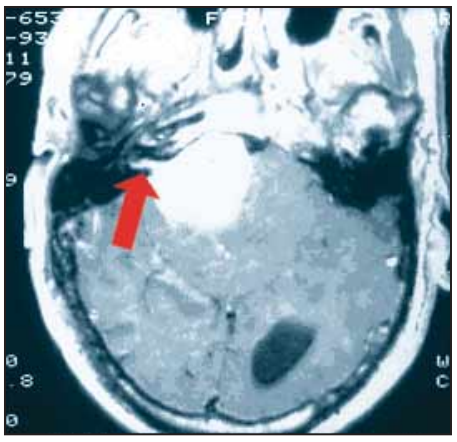
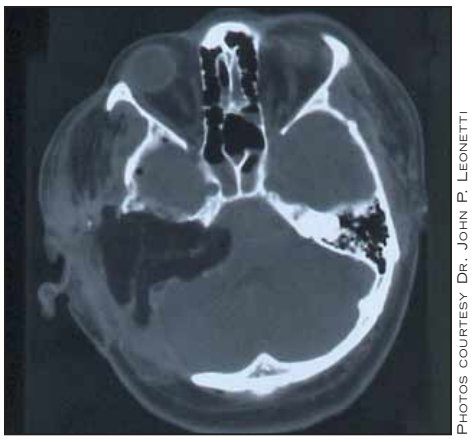


CPA meningioma with internal auditory canal extension seen on axial MRI.



Complete resection of the meningioma is evident on postoperative CT scan.

PHOTOS COURTESY DR. JOHN P. LEONETTI

Meningiomas Require a Wider Surgical Approach

BY PATRICE WENDLING

Chicago Bureau

LOS ANGELES — Large meningiomas can be resected with good long-term outcomes and without damage to the facial nerve using a combined retrosigmoid-transpetrosal-transchochlear approach, Rita M. Schuman, M.D., reported.

Large meningiomas located in the space between the cerebellum and the pons can originate from any area of the dura on the posterior surface of the petrous bone. Tumor removal is surgically challenging due to tumor vascularity, neural attachment, and brainstem compression.

Surgeons at the Loyola Center for Cranial Base Surgery in Maywood, Ill., combined several traditional approaches in a single-stage procedure, employing both retrosigmoid and presigmoid dural openings in 29 patients with large meningiomas of the cerebellopontine angle. The combined approach allows for wider access.

The approach was selected because of the combination of poor hearing and large tumor size among the patients, Dr. Schuman, a resident, said at the annual meeting of the American Academy of Otolaryngology–Head and Neck Surgery Foundation.

The facial nerve was preserved in 26 of 29 patients. Two years after surgery, 20 patients with an intact facial nerve had good function.

Tumors ranged in size from 3 cm to 4 cm (8 cases), 4.1 cm to 5 cm (14), 5.1 cm to 6 cm (4), and 6 cm or larger (3), according to a chart review from July 1995 to July 2004.

The most common presenting symptoms were hearing loss (25 patients) and unilateral tinnitus (22 patients). Only six patients had no cranial nerve involvement upon presentation.

Complete tumor removal was achieved in 19 of 29 (66%) patients, near-total removal in 7 (24%), and subtotal removal in 3 (10%).

Postoperative sequelae included three cases of facial paralysis (10.3%), one case of cranial nerve grade 5 deficit (3.4%), two cranial nerve grade 6 deficits (6.9%), one case of vocal cord paralysis (3.4%), and one of cerebrospinal fluid fistula (3.4%).

The facial nerve was preserved despite the surgery in 26 of 29 patients. At the 2-year follow-up, 20 of the patients with an intact facial nerve had good function in that nerve, and 6 had adequate function.

With an average of 4.6 years follow-up, there was no residual tumor in 19 patients; the tumors were stable in another six patients, and there were signs of tumor regrowth in four (13.8%) patients.

"[The] three different approaches together [provide] the neurosurgeon with a wider lateral access to the tumor, and long-term follow-up shows the recurrence rate is low, and the total tumor removal rate is high," lead author John P. Leonetti, M.D., director of the Center and professor of otolaryngology at Loyola University, said in an interview. ■