Mature teratoma of the lateral ventricle in adulthood

Preoperative CT and MRI diagnosis

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A 41-year-old woman had intermittent throbbing headaches associated with nausea and vomiting for 3 months. On admission, fundus and neurologic examination results were normal. Brain CT scan showed a tumor with fat and calcifications in the right lateral ventricle. T1-weighted image and contrast enhanced T1-weighted image with fat saturation demonstrated a fatty component and mild enhancement of the tumor (figure 1). Intraven-

tricular teratoma was impressed, and a right parieto-occipital craniotomy was performed. In the operative field, the right ventricle was filled with teeth, hair, calcification, and fat globules. The tumor was totally removed. Histopathologic examination revealed a mature teratoma containing elements of three distinct germ layers, without evidence of malignant change. Squamous epithelium, respiratory epithelium, fibroadipose tissue, trabecular bone, foci of

calcification, and mucus glands were identified (figure 2). Postoperative course was uneventful.

Teratomas constitute 0.5% of the intracranial tumors. They have a higher incidence during infancy and childhood. Most teratomas are midline tumors located predominantly in the pineal and suprasellar regions.¹ Teratomas rarely occur in the lateral ventricles.² Mature teratomas consist of completely differentiated ectodermal, mesodermal, and endodermal ele-

Figure 1. (A) Axial noncontrast CT scan showing a fat component (large arrows) and several small calcifications (small arrows) in this right lateral ventricular tumor. (B) Axial noncontrast T1-weighted image demonstrating high signal fat (arrows) and (C) contrast enhanced T1-weighted image with fat saturation showing the diminished signal of fat components and mild enhancement of the tumor. CT scans and MRI contribute to the preoperative diagnosis of mature teratoma.

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Supported in part by grants from the National Science Council (NSC-94-2314-B-075B-008) and Veterans General Hospital-Kaohsiung (VGHS95-61).

Disclosure: The authors report no conflicts of interest.

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Figure 2. The mature teratoma in this case contains (A) well-differentiated respiratory epithelium and mucous glandular structure, (B) fibroadipose tissue, (C) trabecular bone, and (D) squamous epithelium with calcification. (H&E, original magnification:100x)

ments.² Mature teratomas can be diagnosed by CT scan because they are made up of tissues with a wide range of densities such as fat, soft tissue, cartilage, or bone. MRI demonstrates hyperintense and hypointense regions on both T1- and

T2-weighted images. A mature teratoma occupying the lateral ventricle and becoming symptomatic in an adult is extremely unusual, and MRI and especially CT scans contribute to its preoperative diagnosis.

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Ping H. Lai, Shu S. Hsu, Yu S. Lo, et al.
Neurology 2006;66;E25-E26
DOI 10.1212/01.wnl.0000205780.22549.ca

This information is current as of April 10, 2006

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