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Neonatal Herpes Encephalitis

An article on neonatal herpes encephalitis in the September/October 1985 issue of the *AJNR* [1] could have benefited from a greater awareness of the literature. The authors speculated about the increased density of the cortical gyri, but neglected to mention one proven cause of this, for example, retained contrast medium [2]. This lack of awareness also resulted in a significant omission in the Materials and Methods section. The timing of serial CT scans and whether contrast material were administered were not well documented. This article could have been improved if such pertinent data had been included and if the pertinent literature had been cited.

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Reply

We thank Dr. Enzmann for his interest in our article. We are aware of the case reported by Junck et al. in 1981. Because of the infrequency of brain biopsy or fatal outcome in our series, we could not verify their interesting finding of increased cortical iodine after intravenous contrast enhancement. Moreover, increased gyral density in two of our cases was noted *before* any contrast material whatsoever had been administered. A similar finding was noted by Sage et al. [1], who observed cortical dense lesions before administration of contrast material. This led us to believe that cortical iodine could not be the sole cause of the relative gyral increased density. Other than obvious contrast enhancement, the cause still seems speculative, but it may be related to a decrease in the absorption coefficient of adjacent white matter. We trust that further work on the pathophysiology of this devastating disease will explain this finding.

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False-Negative MR Imaging of an Acoustic Neurinoma

We are reporting a patient with an intracanalicular acoustic neurinoma that was diagnosed by CT pneumocisternography after a normal magnetic resonance (MR) study. Neurinomas of the eighth cranial nerve are the most common tumors of the cerebellopontine angle, constituting about 85% of the primary tumors in that region. Until very recently, CT air cisternography was accepted as the definitive procedure for their diagnosis [1]. In the past year, however, several authors have advocated MR as the diagnostic procedure of choice because it is noninvasive and highly sensitive [2–8]; some believed that a normal MR study excluded the diagnosis of acoustic neurinoma [5].

A 42-year-old Hispanic man with a progressive sensorineural hearing loss had an abnormal Rinne test and an abnormal brainstem auditory evoked response on the right. MR (Picker International, 0.5 T, 128 × 256 matrix, two averages, 5 mm axial slices, 2½ mm interslice interval) was normal (figs. 1A and 1B). A CT air cisternogram within a week of MR demonstrated the tumor (fig. 1C). MR was repeated using a larger matrix (256 × 256) and coronal-plane imaging; the lesion was demonstrated (fig. 1D). Axial scanning was not performed with the larger matrix. Surgical resection confirmed the intracanalicular acoustic neurinoma.

One explanation for the failure of the initial MR study to demonstrate this lesion is the large (5 mm) slice thickness, allowing for volume averaging with bone and thereby diminishing signal intensity. Unfortunately, most commercial scanners currently will not make thinner slices. The cerebellopontine angle cisterns have a higher-intensity signal in figures 1A and 1B than is normally seen with the stated imaging parameters, indicating some T2-weighting of uncertain etiology. This probably contributed to masking the lesion as well. The apparently normal internal auditory canals on the T2-weighted spin-echo sequence may also have resulted from volume averaging, although the more likely explanation is inappropriate selection of TR and TE values that caused cerebrospinal fluid and tumor to become isointense. In addition, the gap between slices that occurs using the multisection imaging technique can cause significant error when looking for small lesions.

Two possible explanations exist for the normal axial scan in view of a definitely abnormal coronal scan. One is that the internal auditory

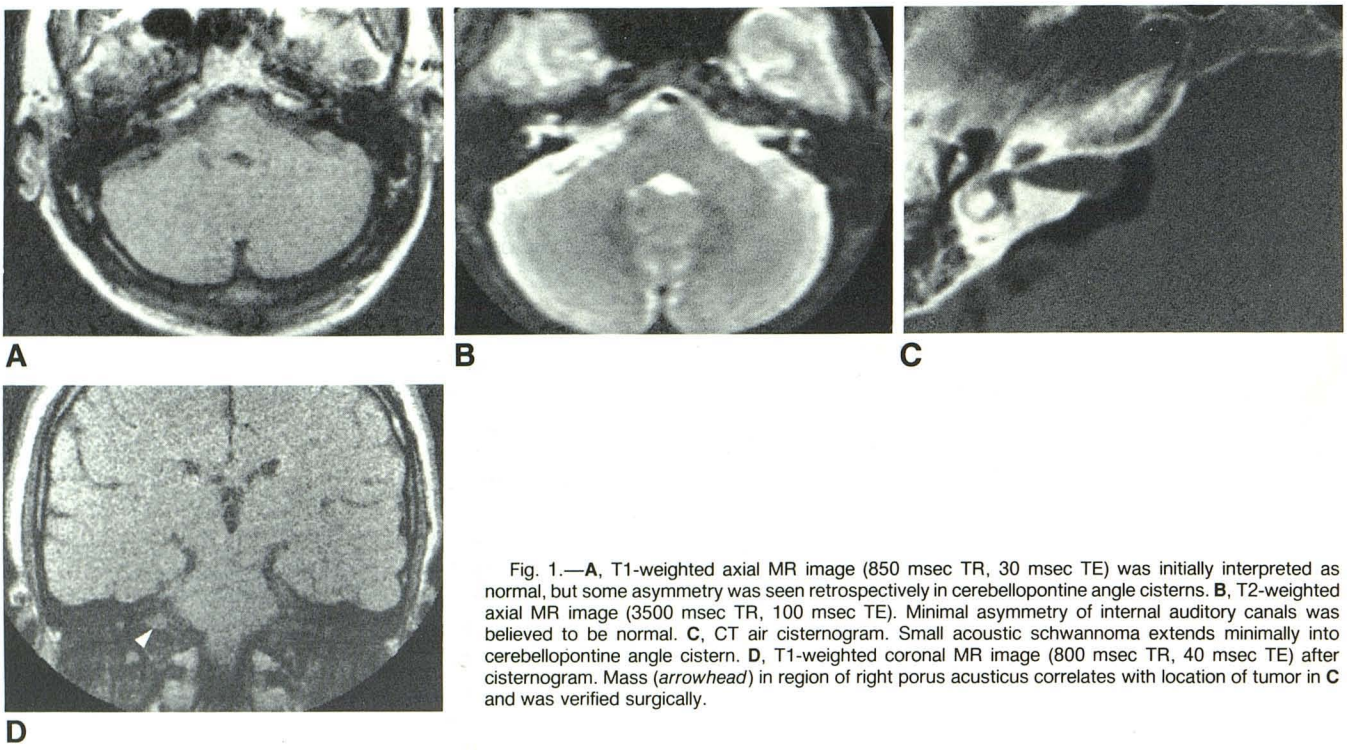

Fig. 1.—**A**, T1-weighted axial MR image (850 msec TR, 30 msec TE) was initially interpreted as normal, but some asymmetry was seen retrospectively in cerebellopontine angle cisterns. **B**, T2-weighted axial MR image (3500 msec TR, 100 msec TE). Minimal asymmetry of internal auditory canals was believed to be normal. **C**, CT air cisternogram. Small acoustic schwannoma extends minimally into cerebellopontine angle cistern. **D**, T1-weighted coronal MR image (800 msec TR, 40 msec TE) after cisternogram. Mass (*arrowhead*) in region of right porus acusticus correlates with location of tumor in **C** and was verified surgically.

canal in this case was obliquely situated with respect to the horizontal plane (fig. 1C) and, therefore, was scanned more directly in the coronal than in the axial plane. In addition, the increased spatial resolution obtained with a 256 × 256 matrix is important in detecting a small lesion.

In conclusion, we believe that in the evaluation of sensorineural hearing loss by MR, both coronal and axial thin sections (5 mm or less) are essential. In addition, optimum imaging parameters must be used, particularly a strongly T1-weighted sequence. There is little doubt that with further improvement in MR technology, especially surface-coil imaging, it will become the imaging method of choice. For the present, CT air cisternography remains the gold standard in the evaluation of possible acoustic neurinomas.

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Radiographic Findings in Moebius and Moebius-like Syndromes

Moebius syndrome is a congenital nonprogressive neuromuscular disorder characterized by bilateral facial and lateral rectus paralysis. Radiographic studies are useful in evaluating the syndrome, especially in documenting any associated malformations that might indicate that the Moebius sequence is part of a more extensive central nervous system process that may not be clinically evident during the neonatal period. We are reporting the clinical and radiographic findings in a case of classic Moebius syndrome and in a case of Moebius-like syndrome.

Case Reports

Case 1

This male infant born of an uncomplicated term pregnancy and vaginal delivery had medial deviation of both eyes, absent facial