Neuroradiology (1999) 41: 949–950

Y. Takada
K. Ohno
M. Tamaki
K. Hirakawa

Cerebellopontine angle pilocytic astrocytoma mimicking acoustic schwannoma

Received: 2 February 1999
Accepted: 21 April 1999

Y. Takada (✉) · K. Ohno · M. Tamaki · K. Hirakawa
Department of Neurosurgery, Faculty of Medicine, Tokyo Medical and Dental University 1-5-45 Yushima, Bunkyo-ku, Tokyo 113-8519, Japan
e-mail address: takada.nsrg@med.tmd.ac.jp,
Tel.: +81-3-5803-5266,
Fax: +81-3-5803-0140

Abstract We describe a case of pilocytic astrocytoma of the cerebellum mimicking an acoustic schwannoma. The tumour protruded into the porus acusticus and enlarged the internal auditory meatus, which is a quite unusual characteristic of glial tumours.

Key words Angle, cerebellopontine · Astrocytoma · Schwannoma, acoustic

Introduction

Juvenile pilocytic astrocytomas of the cerebellum, usually originating in the cerebellar hemisphere and vermis, rarely occur in the cerebellopontine angle (CPA) [1]. A few CPA glial tumours causing internal auditory meatus (IAM) enlargement have been reported [2–5]. We present a patient with a CPA pilocytic astrocytoma showing IAM enlargement.

Case report

An 8-year-old girl with a 1-year history of hearing difficulty presented with right mild facial palsy and horizontal nystagmus. CT demonstrated a CPA tumour and enlargement of the right IAM (Fig. 1). MRI revealed a tumour surrounded by multiple cysts in the right CPA. It enhanced heterogeneously with Gd-DTPA, and had a lateral portion protruding into the IAM (Fig. 2). Pure-tone audiometry showed sensorineural hearing loss in the right ear and

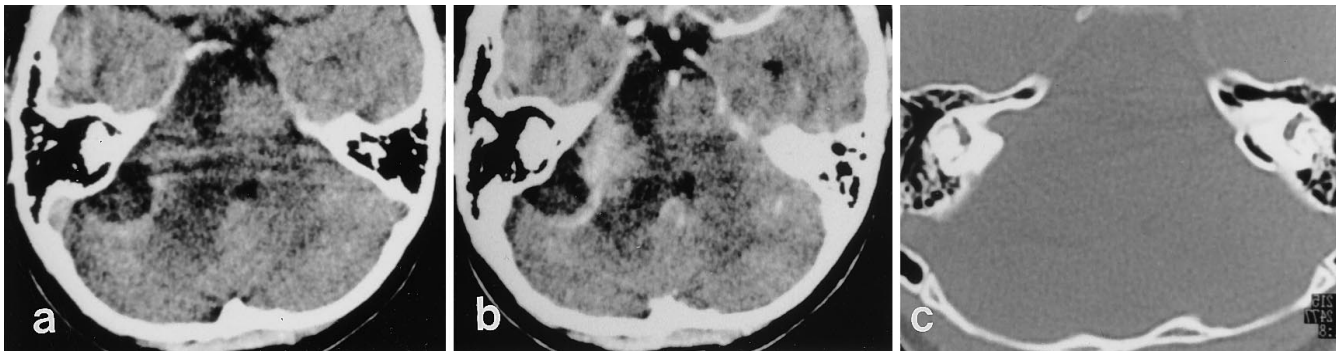

Fig. 1 **a, b** CT before and after contrast medium demonstrates a cerebellopontine angle tumor. **c** A bone window reveals enlargement of right internal auditory meatus

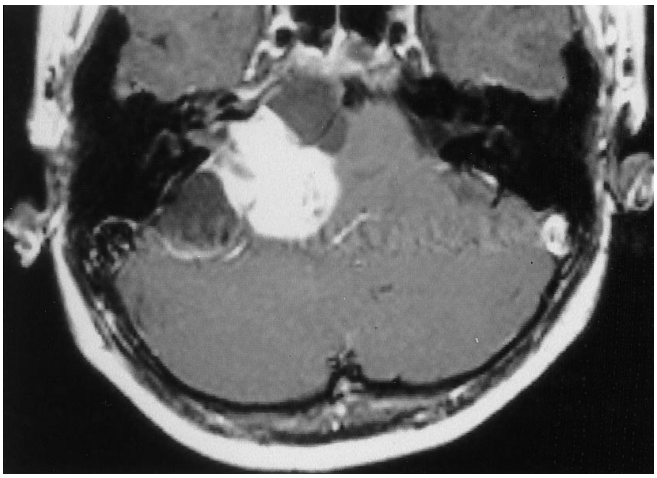

Fig. 2 Contrast-enhanced T1-weighted axial image shows a cerebellopontine angle mass extending into the widened internal auditory meatus

auditory brain stem response studies found no response to right ear stimulation.

The tumor, preoperatively diagnosed as an acoustic schwannoma, was resected through a suboccipital craniectomy. The pathological diagnosis was pilocytic astrocytoma.

Discussion

Pilocytic astrocytomas of the cerebellum are relatively common in children and young adults. They usually originate in the cerebellar hemisphere and often affect the vermis. Although they may mimic an acoustic schwannoma when they grow eccentrically into the CPA [1], neuroradiological differential diagnosis is not difficult.

In our case, CT using a bone algorithm revealed enlargement of the IAM. Bony changes of the IAM are frequent occur with acoustic schwannoma, but rare with CPA glial tumours [3–5]. To our knowledge, only one case of CPA pilocytic astrocytoma with IAM enlargement has been reported [2]. The clinical course and neuro-otological testing were also indicative of acoustic schwannoma. Although acoustic schwannoma is rare in children [6, 7], it should be added to the list of differential diagnostic possibilities.

In this case, the lateral part of the tumour protruded into the anterior part of the widened IAM and a small eccentric cyst, thought to be entraped cerebrospinal fluid, filled the rest of it. These findings, not characteristic of acoustic schwannomas, may indicate the possibility of a glial tumour.

References

1. Burger PC, Scheithauer BW (1994) Tumors of the central nervous system. Armed Forces Institute of Pathology, Washington, pp 77–102
2. Beutler AS, Hsiang JK, Moorhouse DF, Hansen LA, Alksne JF (1995) Pilocytic astrocytoma presenting as an extra-axial tumor in the cerebellopontine angle: case report. Neurosurgery 37: 125–128
3. Kendall B, Symon L (1977) Investigation of patients presenting with cerebellopontine angle syndromes. Neuroradiology 13: 65–84
4. House JL, Burt MR (1985) Primary CNS tumors presenting as cerebellopontine angle tumors. Am J Otol [Suppl]: 147–153
5. Ueyama T, Tamaki N, Kondoh T, Kokunai T, Asada M (1997) Cerebellopontine angle ependymoma with internal auditory canal enlargement and pineal extension-case report. Neurol Med-Chir (Tokyo) 37: 762–765
6. Ishikawa K, Yasui N, Monoh K, Tada H, Mineura K, Sasajima H, Togawa K (1997) Unilateral acoustic neuroma in childhood. Auris Nasus Larynx 24: 99–104
7. The Committee of Brain tumour Registry of Japan (1999) Special report of Brain Tumour registry of Japan (1969–1990). Neurol Med-Chir (Tokyo) 39: 59–107