CT findings in cystic intramedullary oligodendroglioma.

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may have resulted from vascular stasis brought on by shearing injury to the anterior commissure.

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CT Findings in Cystic Intramedullary Oligodendroglioma

Various cases of intramedullary tumors with a cystic component, which are basically astrocytomas and ependymomas, have been described [1-6]. However, no description of an intramedullary cystic oligodendroglioma has been reported. We present such a case, which was studied by metrizamide-enhanced CT.

Case Report

A 20-year-old woman had noticed an overall loss of strength in her right upper extremity and resultant thinning over a 2-year period. During the 6 months before admission, she experienced worsening symptoms and thinning of her right lower extremity. Examination showed an overall loss of strength in the right upper extremity, with muscular atrophy from the deltoid muscle to the interosseous muscles. Atrophy of the quadriceps and gemellus muscles was seen in the right lower extremity. Reflexes were absent in the right upper extremity. No alteration in the vibratory or positional sensitivity was observed, although the abdominal cutaneous response was absent. A CT examination was performed 2 hr after an intrathecal injection of metrizamide. Sections 10 mm thick were made consecutively from the cranial base as far as T2. From C3 downward, enlargement of the cord with obliteration of the subarachnoid space as far as C7 was observed. Contrast material filled a cavity with irregular contours and localized peripherally in the interior of the cord from the inferior portion of C4 as far as C7 (Fig. 1).

Laminectomy was carried out from C7 to C4. The neoplasm seemed to occupy the right half of the intradural space. Overall, the tumor could be readily differentiated from the medulla. The lesion was removed completely by microsurgery. Microscopic sections showed areas of nervous tissue, formed by white matter that appeared to be invaded by tumor cells with clearly delimited contours, clear cytoplasm, and hyperchromatic central nucleus corresponding to oligodendrocytes. Reactive astrocytosis was detected throughout. These results established a diagnosis of oligodendroglioma with areas of astrocytic proliferation.

Discussion

As defined by Barnett and Newcastle [7], syringomyelia is characterized by cavitation of the spinal cord and gliosis; one form is marked by a cavity in the spinal cord that is delimited partly by tumor cells. This definition helps clarify the different designations in the literature that refer to a cystic tumor or to a tumor associated with syringomyelia, which are similar clinical entities.

Syringomyelia can be distinguished from cystic intramedullary tumors [6] by three characteristics: (1) It appears at an earlier age (mean 24 vs 34 years); (2) the symptoms last longer (10 vs 5 years);...
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MR Characteristics of a Primary Melanoma of the Quadrigeminal Plate

Primary CNS melanomas are extremely rare tumors, generally accepted as arising from melanoblasts within the pia-arachnoid [1-3]. Most of these tumors originate from the leptomeninges surrounding the spinal cord and base of the brain. Only four cases of primary melanomas arising in the pineal region have been reported in the literature [1]; all occurred before cross-sectional imaging techniques were available. Although the MR findings of choroidal melanomas [4-6] and of melanoma metastases to the brain [7, 8] have been described, this is the first description of the MR findings of a primary CNS melanoma.

Case Report

A 59-year-old man was admitted complaining of nausea, vomiting, and bilateral temporocerebellar headaches of 2 weeks duration. Ophthalmologic examination showed bilateral papilledema.

Initial evaluation included CT examination of the brain, which showed noncommunicating hydrocephalus with obstruction produced by a small, noncalcified, heterogeneously enhancing lesion posterior to the third ventricle (Fig. 1A). The lesion was isodense on noncontrast CT scans (not shown).

MR imaging was performed with a 1.5-T superconducting GE Signa imaging system. Multislice, multiecho, spin-echo sequences provided T1-weighted (TR = 600 msec; TE = 20 msec), T2-weighted (TR = 2500 msec; TE = 80 msec), and balanced (TR = 2500 msec; TE = 20 msec) images in the axial and sagittal planes. A midline lesion, measuring approximately 9 mm in diameter, was shown in the region of the superior colliculus (Figs. 1B and 1C). The small mass caused anterior displacement and narrowing of the proximal aqueduct of Sylvius. The lesion was isointense to adjacent inferior mesencephalic parenchyma, with focal central hypointensity on T1-weighted images. Unlike most primary and secondary parenchymal CNS tumors [9], the lesion remained isointense on balanced and T2-weighted images.

Open biopsy of the lesion was performed, and a black arachnoid membrane was observed overlying a tectal mass. Examination of specimens of the arachnoid matter and tectal mass showed neoplastic cells, mainly in a perivascular distribution, filled with dark melanin and numerous melanosomes. Infiltration of tumor cells into CNS tissue was distinct. A diagnosis of primary CNS melanotic melanoma was made after careful dermatologic and ophthalmologic examination revealed no evidence of cutaneous or choroidal melanoma.

Discussion

CNS metastases from cutaneous primary melanoma are much more frequent than primary CNS melanoma [3]; therefore, primary CNS melanoma is a diagnosis of exclusion [3].

In humans, melanocytes are found in the skin, mucous membranes, uveal tract, and pia-arachnoid [3]. Precursor melanocytes (melanoblasts), derived from the neural crest, are the cells of origin for both