OLIGODENDROGLIOMAS IN THE YOUNG-AGE GROUP

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OLIGODENDROGLIOMAS are comparatively rare brain tumors in the first and second decades of life. Most often they are slow-growing tumors involving the cerebral hemispheres of adults.¹

During a recent survey of brain tumors two unusual varieties of this neoplasm were encountered. One arose near the third ventricle of a 5-year-old boy; the other involved the left frontal lobe of a 14-year-old girl. In both instances there was an initial history of trauma which obscured the correct diagnosis. The clinical and pathologic aspects of the following cases present several interesting features.

REPORT OF CASES

Case 1. B.W., a 5-year-old boy, was admitted to the hospital because of vomiting and headache. One month prior to admission he had fallen from a height of about 12 feet. He did not lose consciousness, and the only apparent residual effect was a slight limp of the left leg.

On the morning of admission he had an episode of non-projectile vomiting, which was followed by severe frontal headache. Within a few minutes he complained of abdominal pain and became drowsy. On the way to the hospital he had generalized convulsions, which lasted 5 minutes. He then became comatose.

Past history disclosed normal growth and development up to the onset of the present illness.

Examination. Temperature was 98.3°F., pulse rate 76, respiratory rate 24, and blood pressure 116/68. The patient was a well developed and nourished boy, who was unconscious. There were slight generalized twitchings of all extremities. The pupils were fixed, widely dilated, and did not react to light or in accommodation. Occasional strabismus of the left eye was noted. Funduscopic examination disclosed bilateral papilledema. Respirations were irregular, but there were no heart murmurs. There was almost constant spasm of the extremities. The slightest stimulus caused marked extensor spasm. Deep tendon reflexes were exaggerated. Bilateral positive Babinski, Gordon, Oppenheim, Chaddock, and Hoffmann signs were noted. The superficial abdominal and the cremasteric reflexes were absent.

Laboratory Data. Routine urinanalysis and blood counts were within normal limits. Roentgenograms of the heart and lungs were unrevealing. Roentgenograms of the skull disclosed no intracranial calcification, and the sella turcica was not enlarged.

Hospital Course. The day after admission there developed respiratory distress

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with cyanosis, and repeated episodes of vomiting. In spite of oxygen therapy and repeated aspiration the patient expired on the 2nd hospital day.

**Autopsy.** There was diffuse atelectasis of the right lung, and focal atelectasis of the left lung. The significant findings were confined to the central nervous system. The weight of the brain was 1350 gm. There was moderate cerebral edema, with a pressure cone over the brain stem, and herniation of the cerebellar tonsils. A yellow gelatinous mass, 2.5 cm in diameter, was observed just anterior to the optic chiasm, and arising from the floor of the 3rd ventricle. On coronal section, this mass appeared to originate from the posterior portion of the 3rd ventricle, and also involved the lateral portions of the basal ganglia near the globus pallidus. Foci of hemorrhage and necrosis were noted throughout the cut surface of the tumor. The 3rd and 4th ventricles were markedly dilated and filled with recent hemorrhage.

**Microscopic Examination.** The tumor was composed of a uniform cell type. The individual cells had round central nuclei, and a clear cytoplasm (Fig. 1). Mitotic figures were rare. Slight focal calcification was present about the periphery of the tumor, and thick-walled blood vessels were prominent in some regions. The initial impression was that this represented an oligodendroglioma arising from the 3rd ventricle. Since this appeared to be an unusual neoplasm in a child of this age, representative sections of the tumor were submitted to the Armed Forces Institute of Pathology. The members of this institution confirmed the original impression of oligodendroglioma.

**Case 2.** P.S., a 14-year-old white girl, was admitted to the hospital because of convulsions. Two and one-half months previously she had fallen at a roller skating rink. She was unconscious for a few minutes, but did not feel ill. Upon returning

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**Fig. 1. Case 1.** Oligodendroglioma of third ventricle showing small uniform cells with clear cytoplasm. Occasional thick-walled blood vessels are prominent. Hematoxylin and eosin, X340.