Primary Lymphosarcoma of Cerebral Meninges*

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Primary lymphosarcoma of the cerebral meninges occurs only rarely, in contrast to the more frequently encountered primary epidural spinal lymphosarcoma which is a well documented entity.1,2,9,11,16 The absence of a true intracranial epidural space is a major factor accounting for the incidence differential between meningeal or dural lymphosarcoma involving the cranial and spinal portions of the central nervous system. According to Whisnant et al.,16 the 3 main categories of cranial lymphomatous disease are involvement of basal structures via direct extension from lesions of the nasopharynx, diffuse involvement of cranial meninges with or without cranial nerve extensions and intracerebral lymphomas.

In contrast, instances of focal lymphosarcoma arising from the cerebral dura amenable to surgical extirpation are unusual. Kernohan7 recalled having seen a case similar to the one to be presented some 30 years ago, but failed to provide specific elaboration. Zimmerman18 stated that he had seen a number of intracranial epidural malignant lymphomas, but “never showing quite so well the 2 unusual features of bone (diploe) infiltration and the formation of giant germinal centers.” Courville4 felt that the tumor in the case to be presented seemed to be allied to a group of lymphogenous tumors rarely found to have origin in the diploe of the skull. A review of the literature, including standard textbooks of pathology, neurosurgery, pathology and associated subjects revealed a paucity of information as to the pathogenesis of cases such as that which follows—primary lymphosarcoma of the cerebral meninges.

Case Report

A well-developed and nourished 68-year-old negro woman complained of frontal headaches and fatigue for several years. The headaches occurred with ever-increasing frequency and severity, and often wakened her from sleep. They were described as “splitting across the top of the head” and were unrelieved by acetysalicilic acid and similar drugs. Relatives stated that she had become progressively more confused, irrational and somnolent. They found her on the floor, unable to rise, prior to her admission to the hospital. There was no pertinent past history.

Physical Examination. It was difficult to arouse the patient to any level of cooperative effort. Upward gaze was restricted. The optic fundi were normal. There was a left-sided hemiparesis including left facial weakness and a positive left Babinski sign. The neck was supple with normal carotid pulses. There was no cervical, axillary or inguinal adenopathy. Examination of the heart, lungs, and abdomen was normal.

Laboratory Data. The complete blood count, urinalysis, serological tests for syphilis, fasting blood glucose, urea nitrogen and protein bound iodine studies were all within normal limits. Cerebrospinal fluid pressure, dynamics and appearance were normal with a cell count of 1 lymphocyte per cmm. and the protein was 75 mg. per cent. The electroencephalogram revealed a dominant rhythm of 7-9 c/s waves at 10-60 mvs from all regions of the cortex with definite disorganization and suppression in the right frontoparietal area.

Roentgenogram of the chest demonstrated only slight pulmonic emphysema and cardiomegaly with tortuosity of the thoracic aorta. There was no apparent increase in the breadth of the mediastinum or structures at the tracheobronchial bifurcation.

Roentgenographic studies of the skull showed a triangular area of increased density in the right frontoparietal region with an associated osseous proliferative reaction (Fig. 1). The pineal body was displaced slightly to the left. These changes were confirmed by the cerebral angiogram which also displayed increased vascularity about the density in the right frontoparietal region (Fig. 2).

Operation. A neoplasm which had caused erosion and hyperostosis of the inner table of the skull, and which was obviously incorporated with the subjacent dura, made elevation of the bone flap difficult. The well-circumscribed tumor was enucleated. The adjacent cerebral cortex was apparently intact and uninvolved.

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FIG. 1. Triangular area of increased density in the right frontoparietal region due to involvement by the cerebromeningeal lymphosarcoma.

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except for slight softening due to prolonged compression by the lesion.

There was a smaller tumor in the antero-mesial portion of the exposed dura. The craniotomy was extended and the exposed tumor removed, together with the attached dura. This second separate lesion was about $\frac{1}{2}$ the size of the larger one. It appeared to slightly compress the superior extremity of the pre-central convolution.

Pathology. Two portions of bone from the frontoparietal region were studied. The convex external aspects were denuded of periosteum and appeared normal. Con-