Giant pituitary cavernous hemangioma

Case report

MARIA ELENA SANSONE, M.D., BOLESŁAW H. LIWNICZ, M.D., PH.D.,
AND THADDEUS I. MANDYBUR, M.D., PH.D.

Departments of Neurology and Pathology, University of Cincinnati College of Medicine, Cincinnati, Ohio

A large cavernous hemangioma of the pituitary was an incidental finding at the autopsy of a 72-year-old woman who died as a result of metastatic breast carcinoma. This lesion did not cause any overt clinical problems.

KEY WORDS • cavernous hemangioma • pituitary tumor • pituitary vascular malformation

Cavernous hemangioma of the central nervous system (CNS) is a relatively infrequent lesion. It usually occurs within the cerebral parenchyma, and has never been described as a cryptic lesion of the pituitary gland.

Case Report

This 72-year-old black woman with a metastatic breast carcinoma was admitted for terminal care. The patient had harbored a breast mass for the last 7 years.

Course. The breast mass was resected 11 months before the last admission, and a diagnosis of poorly differentiated adenocarcinoma was made. Subsequent to this diagnosis, the patient received radiotherapy and chemotherapy. At admission, the patient was cachectic, with no apparent neurological deficiency except a transient complaint of double vision. Her condition progressively worsened, and she died after 6 months of hospitalization.

Postmortem Examination. Examination of the intracranial contents revealed a dumbbell-shaped mass filling the sella turcica and extending upward to the left hypothalamic area (Fig. 1). The intrasellar portion measured $2 \times 2 \times 1.5$ cm, and filled the entire intrasellar space, and only a thin crescent-shaped pituitary gland could be identified. The cerebral structures were markedly thinned. The suprasellar portion of the mass measured $2 \times 2.5 \times 2$ cm, and compressed the hypothalamic area and displaced the left oculomotor nerve. On section, the mass appeared to be composed of extensive blood-filled spaces surrounded by a fibrous capsule (Fig. 2 left). Microscopic examination (Fig. 2 right) revealed multiple large sinusoidal spaces separated by fibrous septa with no evidence of intervening gliosis. The sinusoids contained fresh blood and/or organized thrombi. In some areas, the interstitial connective tissue contained small capillaries with prominent endothelial nuclei. These findings were diagnostic for a cavernous hemangioma.

The compressed pituitary tissue showed a normal cellular composition with evidence of interstitial hyalinization caused by atrophy. A portion of the displaced left oculomotor nerve was incorporated into the fibrous capsule. The histological structure of this nerve appeared to be normal.

The remaining autopsy findings were metastatic lesions involving the skin, lymph nodes, pleura, pericardium, and bones. Of interest were hamartomatous lesions of both kidneys; in the right kidney an adenoma and lipoma, and in the left kidney a fibroma.
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FIG. 1. External appearance of the cavernous hemangioma at autopsy. The inferior portion of the tumor was removed from the sella turcica.

Discussion

McCormick, in his extensive review of vascular lesions of the CNS, pointed out that cavernous hemangiomas are relatively uncommon. They usually occur in the brain parenchyma, and are characterized by a dense aggregation of blood-vessel sinusoids separated by fibrous septa with no intervening glial tissue. Only rarely, cavernous hemangiomas extend into the subarachnoid space and, to our knowledge, there are no reports of single primary pituitary cavernous hemangiomas. There is an ongoing discussion as to the pathogenesis of cavernous hemangiomas of the CNS. Two main hypotheses are put forward, one considers them to be congenital vascular malformations, and the other benign vascular tumors. In our case, the majority of blood vessels in the lesion were patent with minimal evidence of degeneration; considering that the patient was 72 years old, it seems highly improbable that a congenital malformation would survive in an active state for such a long period of time. However, there is always a possibility that this kind of vascular malformation would grow and reorganize. If that is the case, the distinction between a benign tumor and a congenital malformation would be of little value. Considering the size and location of the cavernous hemangioma reported in this paper, it is surprising that there were no overt clinical symptoms. This seems to be in disagreement with Dandy's findings in a noncavernous angiomia of the pituitary.

Vascular malformations of the CNS can be associated with visceral hamartomas in such major phakomatoses as von Hippel-Lindau disease or Sturge-Weber disease. In the latter, kidney hamartomas are common. In our case, there were hamartomatous lesions of the kidneys; however, the lack of other findings does not allow for a diagnosis of any known phakomatosis. Finally, there are reports of exacerbation of cavernous hemangioma symptoms, apparently caused by the growth of the lesion during pregnancy, and it would be interesting to know whether a hormonally active breast carcinoma could stimulate vascular growth of this lesion.

Fig. 2. Left: Section of the cavernous hemangioma shows a blood-filled vascular mass surrounded by a fibrous capsule. Right: Microscopic appearance of the cavernous hemangioma. H & E, × 100.
References


Address reprint requests to: Boleslaw H. Liwnicz, M.D., Ph.D., Department of Pathology, Room 1206, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267.