INTRACRANIAL EPIDERMOID AND DERMOID TUMORS*

FRANKLIN J. KEVILLE, M.D., AND BURTON L. WISE, M.D.

Department of Neurological Surgery, University of California School of Medicine, San Francisco, and Neurosurgical Service, Veterans' Administration Hospital, San Francisco, California

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The intracranial epidermoid and dermoid tumors (cholesteatomas, or pearly tumors) are uncommon, benign and grow slowly. The location of the tumor in some instances may preclude complete removal, but even partial excision will often result in prolonged or permanent relief of signs and symptoms. The neurological disabilities caused by these tumors are often relatively slight.

We reviewed the cases of patients at the University of California Medical Center and the Veterans' Administration Hospital, San Francisco, who had intracranial epidermoid and dermoid tumors and who were treated during the past 20 years. (One patient was first treated 25 years ago.) Lesions that involved the skull exclusively were not included in this review.

GENERAL CONSIDERATIONS

Sixteen patients had intracranial epidermoid and 2 had dermoid tumors. In 1 additional case there was insufficient tissue from the capsule of the tumor to establish the diagnosis with certainty, but the lesion was probably an epidermoid tumor.

The age and sex of the patients and the duration of symptoms are listed in Table 1. The symptoms and signs varied, of course, with the location of the lesion and were not particularly different from those of other tumors in the same location, except for the relatively long duration of symptoms. Calcification in the lesion was noted on plain roentgenograms of the skull in 7 cases. In 1 patient with an epidermoid in the cerebellopontine angle, erosion of the petrous pyramid was present.

Localization of the tumor was accomplished by pneumoencephalography or ventriculography in 9 cases and by carotid angiography in 1 case. In 1 instance a tumor in the posterior fossa that extended into the upper cervical spinal region was diagnosed by myelography. Protein concentration of the spinal fluid was recorded in 7 cases. It was slightly elevated in 2 patients (71 and 59 mg. per cent) and within normal range in the others.

Complete removal of the tumor capsule should be the goal of operative attack on these lesions. However, the capsule is generally adherent to the adjacent brain and attempted total removal may result in severe disability.

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or operative mortality, depending upon the location of the tumor. Several authors\textsuperscript{3,4,6} have noted that the surgeon often must be content with incomplete removal of the lesion. Olivecrona\textsuperscript{5} stated: "From our experiences with cholesteatomas in this and other locations... recurrences are rare even if most of the capsule is left behind."

Results in the present series will be described under the various specific locations of the tumors.

**LOCATIONS OF TUMORS**

The locations of the tumors are summarized in Table 2.

**Third Ventricle**: 5 cases.\textsuperscript{*} The ages of these patients at admission were 4, 10, 33, 54 and 62 years. Three had evidence of increased intracranial pressure. Calcification within the tumor was noted in the roentgenogram in 3 cases. Operative removal of the tumor was incomplete in all the patients. There was 1 postoperative death. One patient was alive and well 11 years after operation. Three patients died 6 weeks, 2 years and 8 years postoperatively. The deaths occurred elsewhere but are presumed to have been caused by further growth of the tumor.

The patient who died in the hospital following partial removal of the tumor had had a ventriculocisternostomy and irradiation therapy 20 months

**TABLE 2**

<table>
<thead>
<tr>
<th>Location of tumors</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third ventricle</td>
<td>5</td>
</tr>
<tr>
<td>Temporal lobe</td>
<td>5</td>
</tr>
<tr>
<td>Parasagittal region</td>
<td>3</td>
</tr>
<tr>
<td>Posterior fossa, midline</td>
<td>3</td>
</tr>
<tr>
<td>Convexity of cerebral hemisphere</td>
<td>2</td>
</tr>
<tr>
<td>Cerebellopontine angle</td>
<td>1</td>
</tr>
</tbody>
</table>

\textsuperscript{*} There were differences of opinion about the nature of the lesion in 3 instances. Some observers believed that the microscopic appearance of the walls of the cysts was consistent with a diagnosis of craniopharyngioma, although others maintained that these were epidermoid cysts. Grossly, the tumors appeared to be entirely within the third ventricle and were thought to be compatible with a diagnosis of epidermoid cyst.