

## EPIDERMOID TUMOR IN THE LATERAL VENTRICLE

### Significance of Echo-Encephalography

BY

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#### ABSTRACT

The authors report on a case of epidermoid tumor in the lateral cerebral ventricle. Epidermoid tumors are relatively uncommon intracranial lesions and were first described by Esmarch. Till now about 300 cases have been reported. In Japan this tumor was first described by Yamamura, and since then many cases have been reported. But the one situated in the lateral ventricle has not been reported yet in this country.

The significance of echo-encephalography is discussed because this procedure was very useful in determining the location and the nature of the tumor of this case.

#### INTRODUCTION

Intracranial epidermoid tumor was described first by Esmarch<sup>1)</sup> in 1856 and in Japan by Yamamura<sup>2)</sup> in 1906. Since then many cases have been reported<sup>3)</sup>, but the one situated in the lateral ventricle has not been reported yet in Japan. This tumor is a benign intracranial lesion and can be cured completely, so it is important in differential diagnosis. The authors report on a case of epidermoid tumor in the lateral ventricle and state the significance of the echo-encephalography-compound scan which was used in this case.

#### CASE

A 42 year-old housewife was admitted to the Asahi Central Hospital on February 14, 1973, complaining of progressive right

hemiparesis for 2 years. The patient had had no headache and no other symptoms of intracranial hypertension.

Examination upon admission:

Consciousness was clear but disorientation, discalculia, amnesic aphasia and motor dysphasia were present. Neurological examination revealed a right facial paresis (central type) and right hemiparesis. The sensory system and other cranial nerves were normal.

The laboratory findings, which included blood cell count, serum electrolytes, urinalysis, electrocardiogram and blood Wassermann, were normal. The initial cerebrospinal fluid pressure by spinal tap was 410 mmH<sub>2</sub>O and a crystal clear CSF was obtained. Plain craniogram showed no calcification and was normal. The left CAG (Figs. 1-4) showed clearly the signs of

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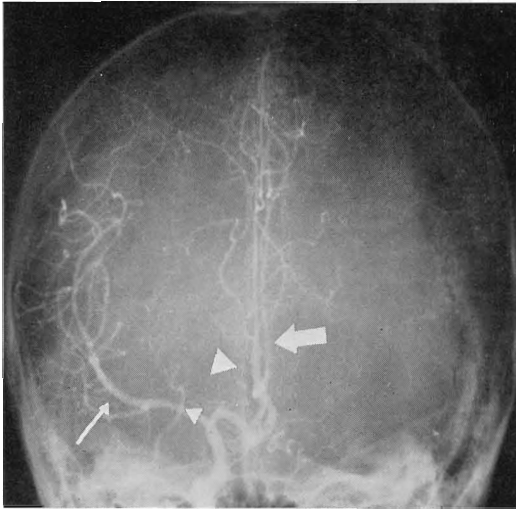


Fig. 1. Left carotid arteriogram  
Towne projection. The anterior cerebral artery is slightly shifted to the right (large arrow). The middle cerebral artery is elevated (small arrow). Anterior chorioidal artery is shifted medially (large arrow head). The perforating arteries are displaced downward (small arrow head).

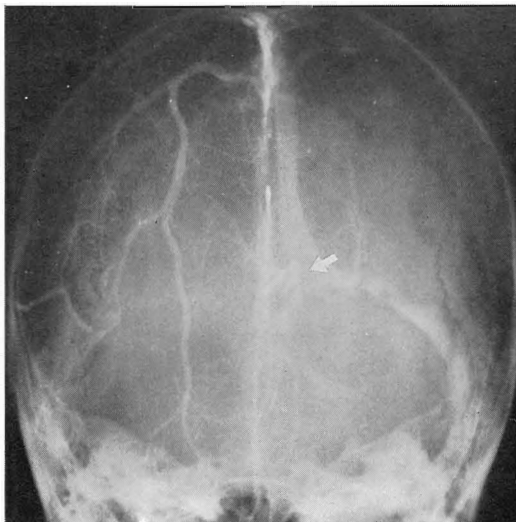


Fig. 2. Left phlebogram  
Towne projection. The internal cerebral vein and the venous angle are shifted to the right markedly (arrow). The basal vein is not visualized.

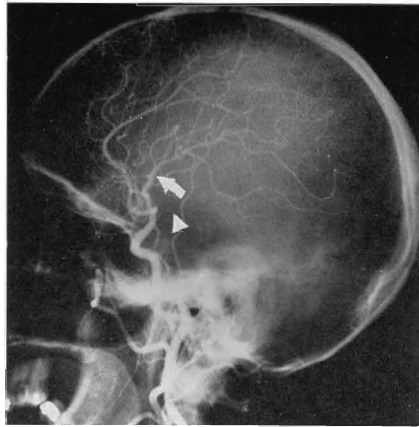


Fig. 3. Left carotid arteriogram  
Lateral projection. The middle cerebral artery is displaced upward markedly (arrow). The anterior chorioidal artery is stretched (arrow head).

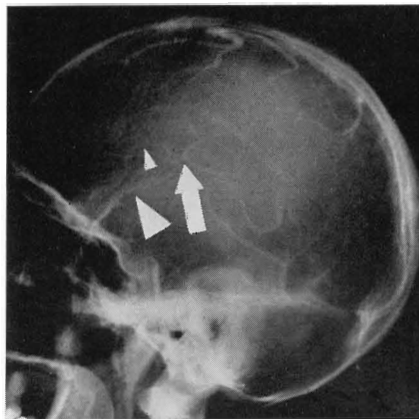


Fig. 4. Left phlebogram  
Lateral projection. The venous angle is displaced upward and backward (arrow). The septal vein is shifted upward and stretched (small arrow head). The Sylvian veins are displaced upward (large arrow head).

temporal lobe tumor but showed neither early veins nor tumor stains. The brain scintiscamera was negative.

#### OPERATION

A left temporo-occipital craniotomy was performed. The epidural echogram (hori-

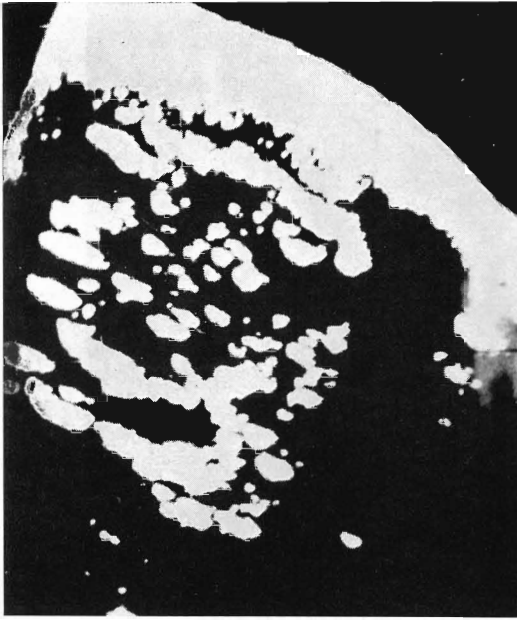


Fig. 5. Echo compound scan horizontal section.  
Tumor is verified in the lateral cerebral ventricle.  
T: Tumor  
V: Ventricle  
M: Midline structure

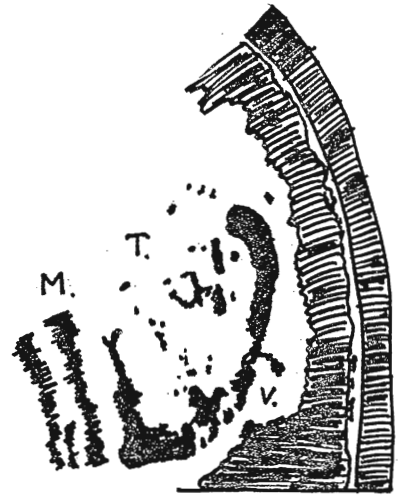
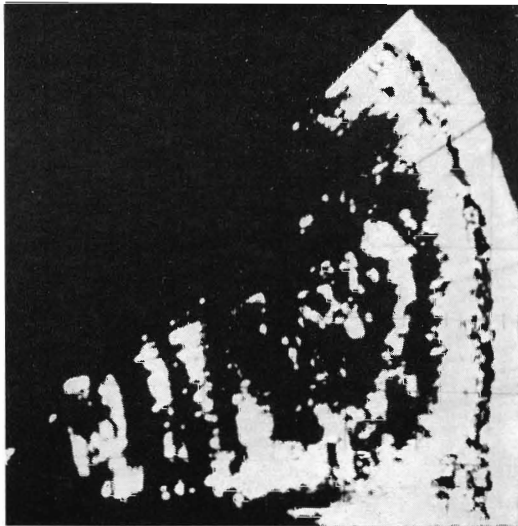


Fig. 6. Echo compound scan coronal section.  
Tumor is verified in the lateral cerebral ventricle.  
T: Tumor  
V: Ventricle  
M: Midline structure

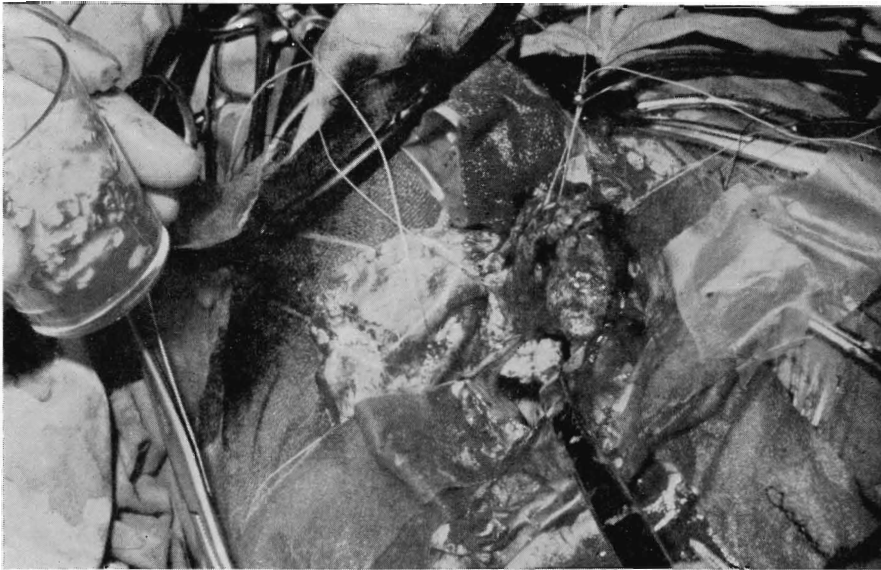


Fig. 7. Piecemeal removal of the tumor is shown.

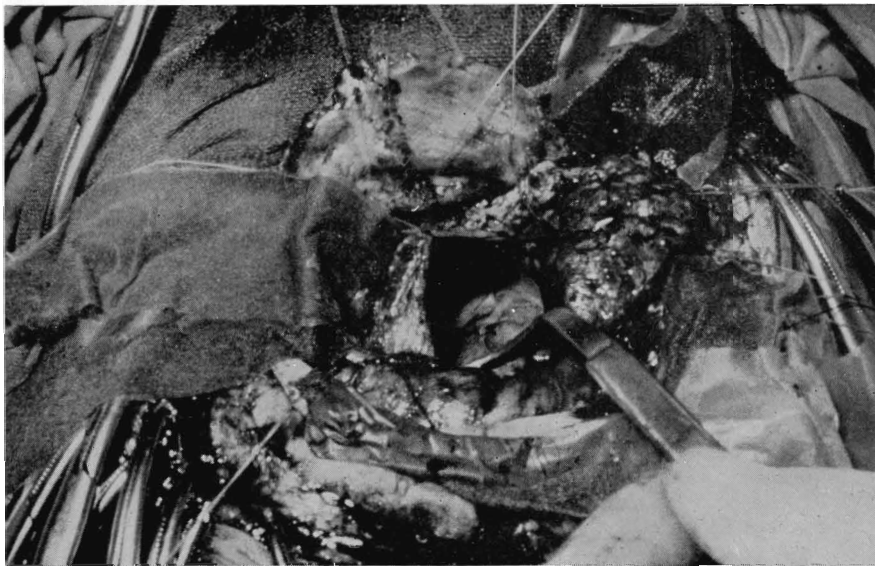


Fig. 8. The interior of the lateral ventricle is visible after the subcapsular total removal of the tumor.

zontal section, Fig. 5; coronal section, Fig. 6) revealed the clear demarcated, multicystic round tumor in the temporal horn of the left lateral ventricle. The tumor was punctured and 10 ml of fluid containing cholesterol crystals were obtained. A hori-

zontal incision was made through the middle temporal gyrus, and the epidermoid tumor was exposed. The white soap-like tissue filled the entire left temporal horn of the lateral ventricle (Fig. 7). The tumor capsule and the brain adhered to

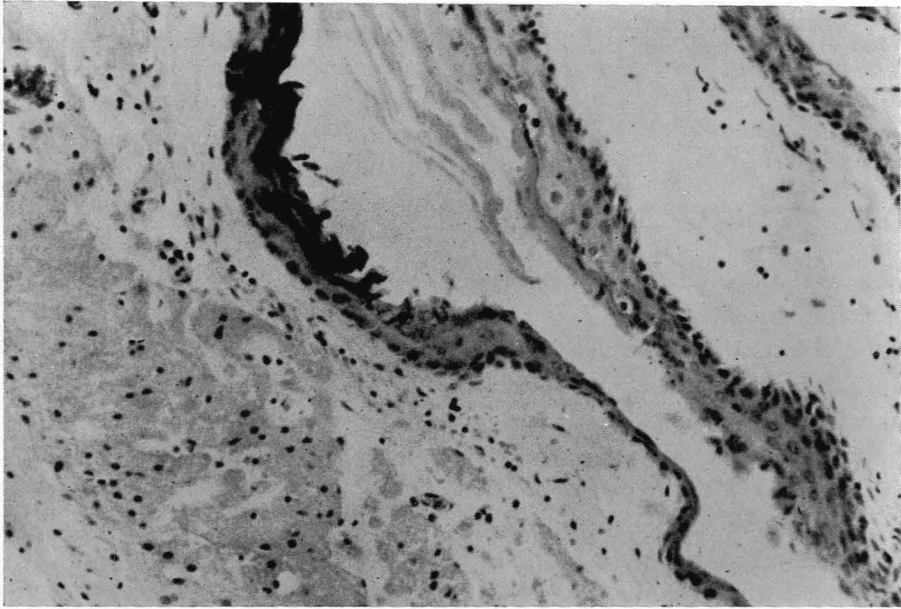


Fig. 9. Histology of wall of tumor.  
The wall is composed of stratified squamous epithelium. Brain substance is also visible outside of the wall.

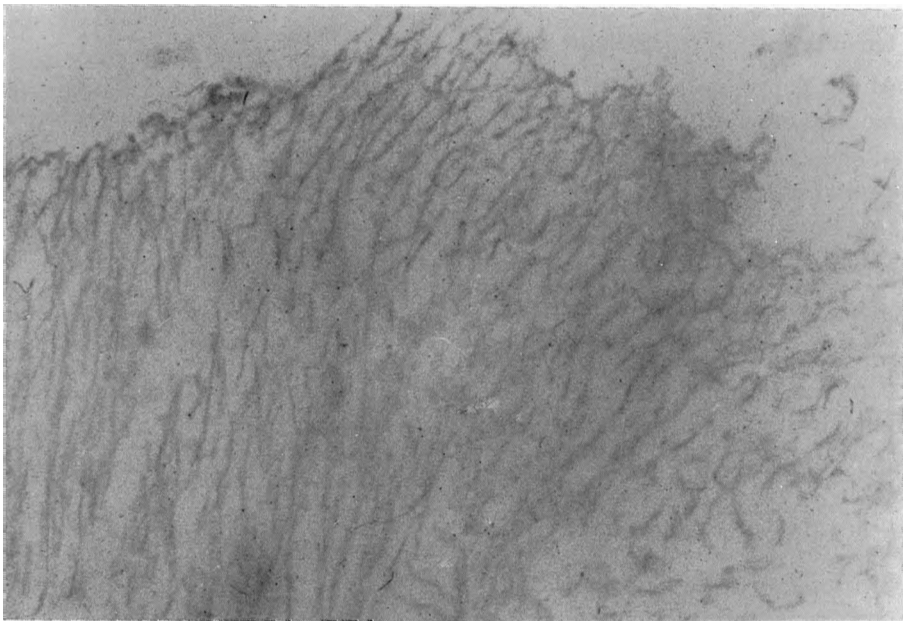


Fig. 10. Histology of intracapsular substance.  
The film shows a highly stratified desquamated keratin.

Table 1. Case of epidermoid tumor of lateral cerebral ventricle

Author (Year)	No. of cases
Scott, M. (1957)	1
Fleming, J.F.R. (1959)	1
Taveras, J.M. (1964)	1
Ohata, M. (1974)	1

the capsule were removed partially for histological examination.

After the subcapsular total removal of the tumor, the interior surface of the left temporal horn was visible all around over the translucent tumor capsule (Fig. 8). So it was varified that the tumor was in the temporal horn of the left lateral ventricle and had no relation to the skull base. The tumor was 5.5 cm in diameter and weighed 50 g.

#### POSTOPERATIVE COURSE

She had a good postoperative course and is healthy as a housewife.

#### HISTOPATHOLOGICAL FINDINGS

Sections of the cyst wall showed a lining of squamous epithelium with keratinous proliferation<sup>4)</sup> (Fig. 9). Sections of the cyst content showed a highly stratified keratinous debris (Fig. 10). The tumor was diagnosed as epidermoid.

#### DISCUSSION

Although some textbooks<sup>5,6)</sup> describe erroneously that the lateral ventricle is one of the common sites, reports on the epidermoid tumor in the lateral ventricle are very rare as shown in Table 1<sup>7-9)</sup>. The authors' case is the first one in this country.

Echo-encephalography-compound scan is excellent in describing the encapsulated tumor and the liquid lesion (e.g. cyst, hematoma, etc.). In this case, the RI-brain scinticamera finding was negative and the tumor contour could not be described by the cerebral angiography, only the echo-encephalography-compound scan describing clearly the location, size and structure (solid part, cystic part) of the tumor. The authors' operative procedure is easier and safer than expected from reading this paper. Echo-encephalography-compound scan is very useful and safe, if applied only epidurally instead of extracranially.

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