Intracranial Ependymoma with Extracranial Metastases

Case Report

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Primary brain tumors rarely metastasize outside the cranial cavity. Fragogiannis and Yalcın described two cases of ependymoma with extracranial metastases, making a total of 18 such cases in the literature. We are reporting what we believe to be the youngest case of this sort.

Case Report

John S. was first admitted to The Hospital for Sick Children on August 23, 1965, at the age of 2 years 5 months. His past history and development had been normal. He had been irritable for 6 months and had had intermittent unexplained vomiting for 4 months. A weakness of the right arm and leg had been noticed for 10 days. There was no history of headache or loss of vision.

On examination irritability was noted and there was a right hemiparesis and hyporeflexia. The right plantar response was extensor. The right optic disc was blurred. He tended to fall to the right when sitting or walking. The blood and urine were normal. An electroencephalogram showed an active disturbance in the left parietal region consistent with an expanding lesion. Skull x-ray showed a split suture and a thinning of the skull bone in the left parietal area. A left carotid arteriogram and air-encephalogram showed a space-occupying lesion in the left parieto-occipital area.

Six days after admission a second air-encephalogram was performed through a left parietal burr hole; prior to the injection of air 60 mls. of thick reddish-yellow fluid were aspirated. This fluid contained red blood cells, some polymorphonuclear cells and clusters of foamy macrophages. No malignant cells were seen.

Operation. Two days later a left parieto-occipital craniotomy was performed and a soft hemorrhagic mass of tissue approximately 4.0×3.0×2.0 cm., with some scattered areas of grayish tumor, was removed. Microscopy showed a cellular tumor composed of columns and sheets of medium-sized round or oval cells with vesicular nuclei among which ran wide bands of a loosely cellular mesenchymal-like tissue. Mitotic figures were plentiful. There were also numerous vascular channels. In places the cells were more elongated and arranged in true rosettes and pseudo-rosettes around blood vessels (Fig. 1). It was concluded that this was an ependymoblastoma (ependymoma Grade IV)

Postoperative Course. Beginning 3 weeks postoperatively the patient received 3,494 r over a course of 3 weeks. Throughout this time his temperature was up and down reaching peaks of 104°F. A brain abscess was suspected.

Second operation. On October 20, 1965, a second craniotomy was performed in the left parieto-occipital area. Purulent material was aspirated which grew staphylococcus pyogenes. Contrast medium was injected and revealed a large abscess approximately 6 cm. in diameter extending across the midline. Aspiration of the abscess was repeated on October 22, 28, and November 4, 1965. The patient was discharged on November 17, 1965. At that time he was eating and playing normally.

Third admission. On January 6, 1966, he suddenly developed a right facial weakness and a spastic paresis of the right arm and leg. At needle exploration in the right parieto-occipital region both solid and cystic tumor was found. Fifteen cc. of yellow, blood-stained fluid were aspirated; clumps of elongated hyperchromatic malignant cells were identified in the fluid. The

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Fig. 2. The primary tumor in the brain showing rosettes with ciliated cells. H. & E. ×250.

Fig. 3. Hilar lymph node showing ciliated ependymal-like epithelium in the marginal sinus. H. & E. ×250.

Fig. 4. Left lower lobe of lung showing cut white tumor nodules.

Fig. 5. Paper-mounted section of lung showing tumor nodule and involved lymph node adjacent to bronchus. H. & E. Actual size.