

Died: 20 October 1943, of Glioblastoma multiform of midbrain.

This 21 year old sailor gave a history of severe progressive headaches for one month. Examination revealed some left sided weakness and bilateral papilloedema. Spinal fluid pressure 360 mm of water. Fluid clear, protein and cell count elevated. Culture of fluid negative. Ventriculogram on 19 October 1943 showed bilaterally markedly dilated ventricles. Patient had been getting progressively worse before ventriculogram and was almost comatose; about 10 hours following the ventriculogram he developed opisthotonic fits and ceased breathing. A canula was inserted into the ventricle and the patient responded and was taken to the Operating Room. A suboccipital craniectomy was done and an intensive glioblastoma was found. The patient died on the day of operation.

#### Microscopic:

Brain: Two sections from the cerebellum show no changes, apart from marked vascular dilation, some hemorrhage (incident to surgical intervention), and a beginning meningitis, characterized by masses of polynuclears grouped about the vessels of the subarachnoid space. Three sections from the tumor mass lying over the left anterior perforated substance reveal an essentially similar picture. The tumor tissues are extra-pial and subarachnoidal in location. It is pleomorphic in character. There are numerous astrocytic element and many large, hyperchromatic cells, some with giant nuclei. There are numbers of spongioblasts with extensive cytoplasmic extensions resulting in typical "tail" formation. These cells exhibit palisading in some areas. The tumor mass is vascular and has an extensive fibrillar stroma, for the most part the product of the numerous astrocytic elements. The perivascular spaces are generally lined with masses of lymphocytes. There is no invasion of the overlying frontal cortex, but there are a few psammoma bodies therein in one of the sections. Two sections from the tumor mass symmetrically surrounding and compressing the aqueduct are of much interest. The ependymal lining is preserved and there is no indication that the neoplastic elements have arisen therefrom. The tumor masses are highly cellular, and infiltrate the mid-brain widely. The cells are very variable in size, staining, and nuclear morphology. The bulk of them are large round cells with intensely basophilic substance and no apparent processes in these H & E sections. Some exhibit excentric nuclei, some have true giant nuclei, and mitotic figures, typical and bizarre, and are very numerous. There are numerous other and smaller cells which apparently are glial elements. These are intensely staining and scattered haphazardly throughout the larger cells. The tumor is supplied by a veritable network of vascular channels. There is no Hemorrhage, and evidence of necrosis is lacking. The tumor possesses no architectural pattern consistent with any tumor of ependymal origin, nor can cells related to ependymal elements be found therein. Sections from the occipital lobes show merely extensive cystic degeneration without any evidence of tumor in the involved areas.

#### Clinical Diagnoses:

- (1) Medulloblastoma of the cerebellum.

#### Pathologic Diagnoses:

RESPIRATORY SYSTEM: Early hypostatic bronchopneumonia, both lower lung lobes; ancient pleuritis, left lung.

SPLEEN & HEMATOPOIETIC TISSUES: Acute passive congestion of the spleen.

CENTRAL NERVOUS SYSTEM: Glioblastoma multiforms of mid-brain surrounding aqueduct, with metastasis in the subarachnoid space over the left anterior perforated substance; symmetrical internal hydrocephalus of both lateral and third ventricles; compression of aqueduct by encircling tumor mass; massive cystic degeneration of left occipital lobe, and to a lesser extent of the right occipital lobe; congenital absence of the cerebellum.

of the cerebellar vermis; dilated cerebellar vessels (compressive phenomenon) with early reactive meningitis; recent midline occipital craniotomy; compression ring of cerebellar tonsils.

BONES & JOINTS: None

MISCELLANEOUS: Bilaterally dilated pupils; cyanosis of all nail beds.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_