Surgical Pathology Final Report

Temporary Copy

Case: [redacted]
Collected: [redacted]
Ordered by: [redacted]

Clinical Information

Procedure:	Craniotomy, resection of brain lesion
Preop Diagnosis:	Brain Tumor
Clinical History:	Seizures

High grade glioma vs PNET (both listed as possibility in report).

Gross Description

A) Received in formalin for FROZEN SECTION DIAGNOSIS and designated TUMOR are multiple fragments of soft white lobulated tissue aggregating to 1.5 x 1.0 x 0.3 cm. Specimen is wrapped and entirely submitted in cassette A1
FROZEN SECTION DIAGNOSIS: CELLULAR NEOPLASM, FAVOR GLIAL (GRD 3), VS. EDGE OF PNET (LF/JR)
B) Received in formalin for routine examination labeled LATERAL TEMPORAL LOBE are several fragments of white, soft tissue aggregating to 1.5 x 1.5 x 0.5 cm. The specimen is wrapped and entirely submitted in cassette B1.
C) Received in formalin for routine examination labeled TUMOR are several fragments of tan-white, soft tissue aggregating to 1.0 x 0.7 x 0.5 cm. The specimen is entirely submitted in cassette C1.
D) Received in formalin for routine examination designated INFERIOR BORDER is a strip consisting of several fragments of white, soft tissue measuring 2.0 cm in length and 0.5 x 0.7 cm. The specimen is wrapped and entirely submitted in cassette D1.
E) Received in formalin for routine examination designated HIPPOCAMPUS is a 2.0 x 1.5 x 1.0 cm fragment of tan-white, soft tissue. Portions have a more opaque white appearance suspicious for tumor. Other regions have a slightly translucent appearance, suggestive of normal brain. The specimen is serially sectioned perpendicular to the long axis and submitted in toto in cassette E1.
F) Received in formalin for routine examination designated CUSA CONTENTS are several minute fragments of brain parenchyma approximating 30 cc. Approximately 75% of the specimen is wrapped and submitted in cassettes F1-F4.
[BB]
Tissue handling: Frozen section tissue: Snap frozen in cryovial: 1A

Microscopic Description

A & C) H&E stained touch preparations show a hypercellular lesion comprised of somewhat monomorphic cells that lack obvious processes. Tissue sections of the neoplasm show a hypercellular neoplasm with mild pleomorphism. Some regions have a fine vascular background with has a 'chicken-wire' architecture. The tumor cells are small to intermediate in size with poorly defined cytoplasmic membranes, hyperchromatic round to irregular nuclei that have a relatively diffuse growth pattern. Numerous mature ganglion cells, are interpreted as overrun endogenous neurons, and are highlighted with NeuN and HuC/D immunostains. Scattered, focally prominent, admixed reactive astrocytes have abundant eosinophilic cytoplasm and remarkable stellate processes, highlighted by GFAP. Rare hypocellular areas (A1) have central karryorhectic debris but unequivocal geographic necrosis or vascular proliferation is not identified. Mitotic figures are variable but focally prominent and range from 6 - 16 / 10 HPFs and average 11/ 10 HPFs. MIB-1 (Ki-67) is positive in 15-50% of the neoplastic cells, averaging ~25%. There is diffuse staining for synaptophysin and GFAP is negative to only focally positive in the small cell component. Neurofilament highlights only few areas.

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B,D) H&E stained sections contain cortical gray and white matter with possible mild gliosis matter. No neoplastic cells are appreciated.
E) H&E stained sections contain cortical tissue including hippocampus. No frank dysplasia, significant gliosis, neuronal dropout or neoplasm is appreciated.
F) H&E stained slides contain fragments of a hypercellular neoplasm, with the morphology similar to that seen in parts A and C. Numerous fragments of uninvolved brain parenchyma are appreciated which include gray matter with readily identifiable neurons and white matter tracts. No necrosis or microvascular proliferation is appreciated.

Diagnosis

A,C,F) BRAIN, TUMOR AND CUSA CONTENTS, RESECTION:
- HIGH GRADE NEOPLASM (SEE COMMENT)

B,D) BRAIN, LATERAL TEMPORAL LOBE AND INFERIOR BORDER, RESECTION:
- CORTICAL TISSUE, NEGATIVE FOR NEOPLASM

E) BRAIN, HIPPOCAMPUS, RESECTION:
- HIPPOCAMPUS, NEGATIVE FOR NEOPLASM

Comment

My colleagues, including , believe that this tumor has features that are compatible with a PNET (so-called cerebral neuroblastoma), supported by the immunohistochemical staining pattern characteristic of neuroectodermal tumors, as performed and interpreted in our lab. Given the unexpected pathology in the setting of discordant neuroimaging, it was forwarded to in consultation. For protocol eligiblitv. it was subsequently reviewed by rendered the diagnosis of Anaplastic mixed glioma; I Their complete reports will be available as scanned copies in CIS under Lab/Scanned Image.