73116-358

[redacted]

[redacted]

Blood
Tissue

FINAL DIAGNOSIS

Posterior fossa tumor: MEDULLOBLASTOMA (CLASSIC TYPE) WHO IV

SYNOPTIC REPORT

Surgical Pathology Cancer Case Summary

Protocol web posting date: [redacted]

BRAIN/SPINAL CORD: Biopsy/Resection

Select a single response unless otherwise indicated.

+ History of Previous Tumor/Familial Syndrome (Note A)
+ _X__ None known
+ ___ Known (specify, if known: _____)
+ ___ Not specified

Specimen Type/Procedure (Note B)
____X _ Open biopsy
_ Resection
___ Stereotactic biopsy
___ Other (specify): _____
___ Not specified

Specimen Handling (select all that apply) (Note C)
_X__ Squash/smear/touch preparation
__X_ Frozen section
___ Tissue for electron microscopy
___ Frozen tissue
_X__ Unfrozen for routine permanent paraffin sections
__X_ Other (specify): ___MOLECULAR GENETICS_____
___ Not specified

+ Specimen Size (Note D)
+ ___ Greatest dimension: _1.5__ cm

Medullsblastoma
cerebellum

[redacted]

MR# [redacted]

SYNOPTIC REPORT **(Continued)**

+ ___ Additional dimensions: ___x___ cm (for fragmented tissue, an aggregate size may be given)
+ ___ Cannot be determined (see Comment)

Laterality
___ Right
___ Left
___ Bilateral
__X_ Not specified
___ Not applicable

Tumor Site (select all that apply) (Note E)
___ Skull
+ Specify further (eg, frontal, parietal, temporal, occipital), if known:
_____
___ Dura
+ Specify further (eg, cerebral [convexity/lobe, falx, tentorium, sphenoid wing, skull base, other], spinal or other), if known: _____
___ Leptomeninges
+ Specify further (eg, cerebral [convexity/lobe], spinal, or other), if known: _____
___ Brain/cerebrum
+ Specify lobe(s) (eg, frontal, temporal, parietal, occipital), if known:
_____
___ Brain, other:
___ Basal ganglia
___ Thalamus
___ Hypothalamus
___ Pineal
__X_ Cerebellum
___ Cerebellopontine angle
___ Suprasellar
___ Sella
___ Other (specify, if known: _____)
___ Cranial nerve
+ Specify I-XII, if known: _____
___ Ventricle
+ Specify lateral, third, fourth, cerebral aqueduct, if known:
_____
___ Brainstem
+ Specify midbrain, pons, or medulla, if known: _____
___ Spine (vertebral column)
+ Specify bony level (eg, C5, T2, L3), if known: _____
___ Spinal Cord
+ Specify bony level (eg, C5, T2, L3), if known: _____
+ Specify spinal location (eg, extradural, intradural-extramedullary, intramedullary, conus medullaris, filum terminale), if known:
_____

MR# [redacted]

SYNOPTIC REPORT **(Continued)**

___ Spinal nerve root(s)
+ Specify bony level (eg, C5, T2, L3), if known: _____
+ Specify location (eg, intradural, foramen), if known: _____
___ Peripheral nerve
+ Specify site, if known: _____
___ Ganglion
+ Specify site, if known: _____
___ Other (specify): _____
___ Not specified

Histologic Type and Grade (applicable World Health Organization [WHO] classification and grade) (select all that apply) (Note F, Note G)

Astrocytic Tumors
___ Pilocytic astrocytoma (WHO grade I)
___ Pilomyxoid astrocytoma (WHO grade II)
___ Subependymal giant cell astrocytoma (WHO grade I)
___ Pleomorphic xanthoastrocytoma (WHO grade II)
___ Pleomorphic xanthoastrocytoma with anaplastic features (WHO grade not assigned)
___ Diffuse astrocytoma (WHO grade II)
___ Fibrillary astrocytoma (WHO grade II)
___ Protoplasmic astrocytoma (WHO grade II)
___ Gemistocytic astrocytoma (WHO grade II)
___ Anaplastic astrocytoma (WHO grade III)
___ Glioblastoma (WHO grade IV)
___ Giant cell glioblastoma (WHO grade IV)
___ Gliosarcoma (WHO grade IV)
___ Gliomatosis cerebri (usually WHO grade III; diagnosis requires clinical-pathological correlation)
___ Astrocytoma, not otherwise characterized (WHO grades I-IV)

Oligodendroglial Tumors
___ Oligodendroglioma (WHO grade II)
___ Anaplastic oligodendroglioma (WHO grade III)

Oligoastrocytic Tumors (mixed glioma)
___ Oligoastrocytoma (WHO grade II)
___ Anaplastic oligoastrocytoma (WHO grade III)

Ependymal Tumors
___ Subependymoma (WHO grade I)
___ Myxopapillary ependymoma (WHO grade I)
___ Ependymoma (WHO grade II)
___ Cellular ependymoma (WHO grade II)
___ Papillary ependymoma (WHO grade II)
___ Clear cell ependymoma (WHO grade II)
___ Tanycytic ependymoma (WHO grade II)

MR#: [redacted]

SYNOPTIC REPORT **(Continued)**

___ Anaplastic ependymoma (WHO grade III)

Choroid Plexus Tumors
___ Choroid plexus papilloma (WHO grade I)
___ Atypical choroid plexus papilloma (WHO grade II)
___ Choroid plexus carcinoma (WHO grade III)

Other Neuroepithelial Tumors
___ Astroblastoma (WHO grade not assigned)
___ Chordoid glioma of the third ventricle (WHO grade II)
___ Angiocentric glioma (WHO grade I)

Neuronal and Mixed Neuronal-Glial Tumors
___ Dysplastic gangliocytoma of cerebellum (Lhermitte-Duclos) (WHO grade I)
___ Desmoplastic infantile astrocytoma/ganglioglioma (WHO grade I)
___ Dysembryoplastic neuroepithelial tumor (WHO grade I)
___ Gangliocytoma (WHO grade I)
___ Ganglioglioma (WHO grade I)
___ Anaplastic ganglioglioma (WHO grade III)
___ Central neurocytoma (WHO grade II)
___ Extraventricular neurocytoma (WHO grade II)
___ Cerebellar liponeurocytoma (WHO grade II)
___ Papillary glioneuronal tumor (PGNT) (WHO grade I)
___ Rosette-forming glioneuronal tumor of the fourth ventricle (RGNT) (WHO grade I)
___ Paraganglioma of the spinal cord (WHO grade I)

Tumors of the Pineal Region
Pineal parenchymal tumors
___ Pineocytoma (WHO grade I)
___ Pineal parenchymal tumor of intermediate differentiation (WHO II III)
___ Pineoblastoma (WHO grade IV)
___ Papillary tumor of the pineal region (WHO grade II-III)

Embryonal Tumors
__X_ Medulloblastoma, not otherwise characterized (WHO grade IV)
___ Desmoplastic/nodular medulloblastoma (WHO grade IV)
___ Medulloblastoma with extensive nodularity (WHO grade IV)
___ Anaplastic medulloblastoma (WHO grade IV)
___ Large cell medulloblastoma (WHO grade IV)
___ Central nervous system (CNS) primitive neuroectodermal tumor (PNET) (WHO grade IV)
___ Medulloepithelioma (WHO grade IV)
___ Neuroblastoma (WHO grade IV)
___ Ganglioneuroblastoma (WHO grade IV)
___ Ependymoblastoma (WHO grade IV)
___ Atypical teratoid/rhabdoid tumor (WHO grade IV)

MR#: [redacted]

SYNOPTIC REPORT **(Continued)**

Tumors of Cranial and Paraspinal Nerves
___ Schwannoma (WHO grade I)
___ Cellular (WHO grade I)
___ Plexiform (WHO grade I)
___ Melanotic (WHO grade I)
___ Neurofibroma (WHO grade I)
___ Plexiform (WHO grade I)
___ Perineurioma (WHO grade I)
___ Intraneural perineurioma (WHO grade I)
___ Soft tissue perineurioma (WHO grade I)
___ Malignant perineurioma (WHO grade III)
___ Ganglioneuroma (WHO grade I)
___ Malignant peripheral nerve sheath tumor (MPNST) (WHO grade II-IV) (Note H, Note I)
___ Epithelioid (WHO grade II-IV)
___ MPNST with divergent mesenchymal and/or epithelial differentiation (WHO grade II-IV)

Tumors of the Meninges/Meningothelial Cells
___ Meningioma (WHO grade I)
___ Meningothelial (WHO grade I)
___ Fibrous (fibroblastic) (WHO grade I)
___ Transitional (mixed) (WHO grade I)
___ Psammomatous (WHO grade I)
___ Angiomatous (WHO grade I)
___ Microcystic (WHO grade I)
___ Secretory (WHO grade I)
___ Lymphoplasmacyte-rich (lymphoplasmacytic) (WHO grade I)
___ Metaplastic (WHO grade I)
___ Atypical meningioma (WHO grade II)
___ Clear cell meningioma (WHO grade II)
___ Chordoid meningioma (WHO grade II)
___ Anaplastic meningioma (WHO grade III)
___ Papillary meningioma (WHO grade III)
___ Rhabdoid meningioma (WHO grade III)
___ Other (specify): _____

Mesenchymal (Nonmeningothelial) Tumors (Note I)
___ Lipoma
___ Angiolipoma ___ Hibernoma ___ Liposarcoma (intracranial) ___ Solitary fibrous tumor ___ Fibrosarcoma ___ Malignant fibrous histiocytoma ___ Leiomyoma ___ Leiomyosarcoma
___ Rhabdomyoma ___ Rhabdomyosarcoma ___ Chondroma
___ Chondrosarcoma
___ Osteoma
___ Osteosarcoma ___ Osteochondroma ___ Hemangioma ___ Epithelioid hemangioendothelioma ___ Hemangiopericytoma ___ Malignant hemangiopericytoma
___ Angiosarcoma ___ Kaposi sarcoma

MR#: [redacted]

SYNOPTIC REPORT **(Continued)**

___ Chordoma
___ Mesenchymal, nonmeningothelial tumor, other (specify type, if possible):
_____
___ Sarcoma, primary CNS (specify type, if possible): _____

Primary Melanotic Tumors
___ Diffuse melanocytosis
___ Melanocytoma
___ Malignant melanoma
___ Meningeal melanomatosis

Tumors of Uncertain Histogenesis
___ Hemangioblastoma (WHO grade I)

Lymphoma and Hematopoietic Tumors
___ Malignant lymphoma (specify type, if possible): _____
___ Plasmacytoma
___ Granulocytic sarcoma
___ Hematopoietic neoplasm, other (specify type, if possible):
_____

Germ Cell Tumors
___ Germinoma
___ Embryonal carcinoma
___ Yolk sac tumor
___ Choriocarcinoma
___ Teratoma, mature
___ Teratoma, immature
___ Teratoma with malignant transformation
___ Malignant mixed germ cell tumor (specify components, eg, germinoma, embryonal, yolk sac, choriocarcinoma, teratoma): _____

Tumors of the Sellar Region
___ Craniopharyngioma (WHO grade I)
___ Craniopharyngioma, adamantinomatous (WHO grade I)
___ Craniopharyngioma, papillary (WHO grade I)
___ Granular cell tumor (WHO grade I)
___ Pituicytoma (WHO grade I)
___ Spindle cell oncocytoma (WHO grade I)
___ Pituitary adenoma (specify nonfunctional or hormone expression, if known): _____
___ Pituitary carcinoma
___ Pituitary hyperplasia
___ Other (specify): _____

Other/Nonclassifiable
___ Other(s) (specify): _____
___ Malignant neoplasm, type cannot be determined

MR#: [redacted]

SYNOPTIC REPORT **(Continued)**

Histologic Grade (WHO histologic grade) (Note G)
___ Not applicable
___ Cannot be determined
___ WHO grade I
___ WHO grade II
___ WHO grade III
__X_ WHO grade IV
___ WHO grade not assigned
___ Other (specify): _____

Margins (for resections of malignant peripheral nerve sheath tumors only) (Note H)
___ Cannot be assessed
___ Margins not involved by tumor
___ Margins involved by tumor
+ Specify, if possible: _____

+ Ancillary Studies (select all that apply)
+ ___ None performed
+ __X_ Immunohistochemistry (specify): _____ini-1 RETAINED, GFAP ENTRAPPED ASTROCYTES, NEUROFIL, SYNAPTOPHY +_____
+ ___ Electron microscopy
+ ___ Molecular genetic studies (specify): _____ (Note J)
+ ___ 1p deletion identified
+ ___ 1p deletion not identified
+ ___ 19q deletion identified
+ ___ 19q deletion not identified
+ ___X Other (specify): _____
+ ___ Other (specify): _____

+ Additional Pathologic Findings
+ Specify: _____

+ Comment(s): _____

MEDICAL HISTORY

DOCTOR'S NAME: [redacted]
PRE-OP DX: BRAIN TUMOR
POST-OP DX: PENDING
PROCEDURE: CRANIOTOMY, BRAIN TUMOR
HISTORY: [redacted] MALE - BRAIN TUMOR; HERE FOR ABOVE PROCEDURE

MR#: [redacted]

TISSUES

. BRAIN, NOS - BRAIN TUMOR, B. BRAIN, NOS - BRAIN TUMOR

GROSS DESCRIPTION

A. The specimen is received fresh for frozen section in a container labeled with the patient's name, medical record [redacted] number and designated "tumor". The specimen consists of three irregular fragments of red-tan soft tissue ranging from 0.3 x 0.2 x 0.1 cm up to 1.2 x 1 x 0.5 cm. The squash preps are performed, a representative section is submitted for frozen section. The frozen section and the remaining tissue are entirely submitted for permanent sectioning in cassettes FSA, A. Blood is received per CBTTC protocol.

B. The specimen is received fresh in a container labeled with the patient's name, medical record number [redacted] and designated "tumor". The specimen consists of three irregular fragments of tan-red soft tissue ranging from 1 x 0.7 x 0.4 cm up to 1.5 x 1.2 x 0.3 cm. A representative portion of the specimen is submitted in accordance to protocol CBTTC. A representative portion is submitted for cytogenetic studies. The remaining tissue is entirely submitted in one cassette.

FROZEN SECTION DIAGNOSIS

MEDULLOBLASTOMA

REPORTED BY: [redacted]
REPORTED TO:

MICROSCOPIC DESCRIPTION

Sheets of tightly packed tumor cells are present, and also infiltrate cerebellum and leptomeninges. The cells form occasional Homer Wright rosettes. Tumor cells have oblong or carrot-shaped hyperchromatic nuclei and inconspicuous cytoplasm: nucleoli are not prominent, and cell wrapping is not present. There are many mitotic figures and apoptotic cells and also occasional foci of necrosis.
GFAP indicates entrapped astrocytes within the tumor. However tumor cells show strong expression of synaptophysin and considerable expression of neurofilament. INI-1 is retained by tumor nuclei.

DISCLAIMER

"These tests were developed and their performance characteristics determined by the Pathology Department at [redacted] They have not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. These tests are used for clinical purposes. It should not be regarded as

MR# [redacted]

DISCLAIMER **(Continued)**

investigational or for research. This Laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical laboratory testing."

Signed _____(signature on file)_____ [redacted]