Spinal cord tumor classification

- Intramedullary Glioblastoma as One of Multiple Radiation-Induced Neoplasms
- Effectiveness of conus lipoma surgery-a case series
- Changes of intestinal microbiome and its relationship with painful diabetic neuropathy in rats
- Clinical Efficacy of Posterior and Combined Posterior-Anterior Surgical Approaches for Intractable Tuberculous Thoracolumbar Kyphosis: A Retrospective Analysis
- Strong nuclear expression of HOXB13 is a reliable surrogate marker for DNA methylome profiling to distinguish myxopapillary ependymoma from spinal ependymoma
- H3K27M-mutant spinal cord and hemispheric tumor with prolonged survival: illustrative case
- An Institutional Experience of Genomic Analysis and Methylation Profiling of Thoracic Spinal Meningiomas
- Clinical Practice Guideline: The Diagnosis and Treatment of Acute Spinal Cord Injury

Advances in molecular pathology have resulted in better understanding and categorization of CNS tumors, leading to better decision-making on the most appropriate therapeutic approach for each category, as well as proposing new therapeutic modalities to treat these tumors [1)].

They can be classified according to many ways:

see Primary spinal cord tumor

Age

Adult spinal cord tumor.

Pediatric spinal cord tumor.

Localization

Cervical spinal cord tumor

Thoracic spinal cord tumor

Intramedullary spinal cord tumor.

Intradural extramedullary spinal tumor.

Histology

glial neoplasms : 90 - 95% of all intramedullary tumours

Spinal cord ependymoma : 60% of all glial spinal cord tumours

Spinal cord astrocytoma : 33% of all glial spinal cord tumours

Spinal cord ganglioglioma : 1% of all glial spinal cord tumours

non-glial neoplasms

highly vascular lesions

Spinal cord hemangioblastoma

spinal paraganglioma

other rare lesions :

Intramedullary spinal cord metastasis

primary lymphoma of the spinal cord

Spinal primitive neuroectodermal tumor

solitary fibrous tumour

intramedullary benign masses

spinal canal epidermoid cyst

Spinal cord lipoma

Associations

Intramedullary spinal neoplasms are more common in patients with neurofibromatosis:

ependymomas occur more often in patients with NF2

astrocytomas occur more often in patients with NF1.

Cysts

Approximately 70% of intramedullary tumours are associated with cysts.

Two types of cysts are recognised :

tumoural (or intratumoural) cysts

contained within the tumour itself

typically demonstrate peripheral enhancement

may result from necrosis, fluid secretion, or degeneration of the neoplasm

need to be resected along with the solid portion of the tumour because there is a high likelihood of neoplastic cells within the cyst wall

occurs in association with the following proportion of tumours:

spinal ganglioglioma : in 46%

spinal ependymoma : in 22%

spinal astrocytoma : in 21%

spinal hemangioblastoma : in 2 - 4%

non-tumoural (or reactive) cysts

occur rostral or caudal to the solid portion of the tumour

occur due to dilatation of the central canal

do not enhance

present in 60% of all intramedullary spinal tumours may resolve once the neoplasm is resected

Syringomyelia occurs in approximately 50% of all intramedullary tumours but is most frequently associated with spinal cord hemangioblastomas.

1)
Iranmehr A, Namvar M, Rezaei N, Hanaei S. Brain and Spinal Cord Tumors Among the Life-Threatening Health Problems: An Introduction. Adv Exp Med Biol. 2023;1394:1-18. doi: 10.1007/978-3-031-14732-6_1. PMID: 36587378.