# Mural nodule

Cyst with a mural nodule tumor (CMNT) is one of the radiologic patterns of central nervous system (CNS) tumors. In a classification of the patterns of contrast enhancement in the brain and meninges [1)].

CMNT is considered a subtype pattern of intra-axial enhancement included in the category of fluid-secreting low-grade primary neoplasm. The CMNT pattern is seen in a variety of fluid-secreting neoplasms:

The most common, hemangioblastoma, pilocytic astrocytoma, ganglioglioma, pleomorphic xanthoastrocytoma, tanycytic ependymoma, intraparenchymal schwannoma, desmoplastic infantile ganglioglioma, cystic metastases.

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Pilocytic astrocytoma: The cyst content is iso- to slightly hyperintense to CSF. The cyst wall occasionally enhances.

They range in appearance:

Large cystic component with a brightly enhancing mural nodule: 67%

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Hemangioblastoma The cyst is slightly hyperintense in T1 compared with CSF The enhancement of the wall of the cyst is rarely seen in hemangioblastoma.

Cerebellar hemangioblastomas are traditionally described as four types.

Type 1 (5% of posterior fossa HBs) is a simple cyst without a macroscopic nodule.

Type 2 is a cyst with a mural nodule (60%).

Type 3, or solid tumors (26%).

Type 4, or solid tumors with small internal cysts (9%), are also seen in the cerebellum and predominate in the spinal cord.

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Pleomorphic xanthoastrocytoma Cystic portion is isointense to CSF. Enhancement of adjacent meninges, with an appearance of dural tail

70% of Pleomorphic Xanthoastrocytomas arise as a cyst with solid mural nodule, the remainder being predominantly solid with variable small cystic areas.

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Ganglioglioma The cyst often expands the cortex

Desmoplastic infantile ganglioglioma Large cyst with cortical-based enhancing tumor. Enhancement of adjacent pia and reactive dural thickening are specific findings On T1 the hypointense cyst may contain septae while the nodule is heterogeneous

A case is described of a subependymal giant cell astrocytoma that occurred as a mural nodule within a cyst in the parietal lobe. The tumor recurred twice over a period of 47 years despite two extensive surgical resections [2].

Epidermoid tumors with enhancing mural nodule on MRI and with hyperattenuating lesion on CT are extremely rare. [3].

Dysembryoplastic neuroepithelial tumor, may show enhancement in ~20-30% of cases, enhancement may be heterogeneous or a mural nodule

Spinal tanycytic ependymomas are found to be typically well-demarcated masses, predominantly showing isointensity on T1-weighted signal, and T2-weighted hyperintensity, with variable patterns of contrast enhancement. A cystic component was seen in half of the cases, and in a minority a mural nodule was present within the cyst wall [4].

1)
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