

Medulloblastoma Computed Tomography

CT: noncontrast → typically hyperdense (due to high cellularity), contrast → most enhance. 20% have calcifications.

Enhancement is present in over 90% of cases and is usually prominent ¹⁾.

It appears as a homogeneously enhancing hyperdense mass on computed tomography scan and is associated with the clinical picture of posterior fossa syndrome. This unique clinic-radiological pattern is considered "typical" medulloblastoma, but medulloblastomas do not follow the typical clinic-radiological pattern in a significant number of children and adult cases and should be considered in all midline posterior fossa tumors, hemisphere, and cerebellopontine angle despite having clinical and radiological features suggestive of other tumors. Definitive diagnosis requires histologic confirmation in all cases ²⁾.

Characteristic or classic features, such as increased attenuation on unenhanced CT, midline location and well-defined margins, are commonly present in childhood cases of posterior fossa medulloblastoma, although atypical imaging features are being noted more frequently with the increased dependence on MR as the diagnostic modality of choice. Carefully performed CT and MR both initially provide suitable geography and characteristics, but MR is superior in the detection of pre- or post-operative neoplastic spread elsewhere in the subarachnoid space. Accurate establishment of disease extent is essential in planning both surgical resection and adjuvant therapy ³⁾.

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Taylor MD, Northcott PA, Korshunov A, Remke M, Cho YJ, Clifford SC, Eberhart CG, Parsons DW, Rutkowski S, Gajjar A, Ellison DW, Lichter P, Gilbertson RJ, Pomeroy SL, Kool M, Pfister SM. Molecular subgroups of medulloblastoma: the current consensus. *Acta Neuropathol.* 2012 Apr;123(4):465-72. doi: 10.1007/s00401-011-0922-z. Epub 2011 Dec 2. PMID: 22134537; PMCID: PMC3306779

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Meshkini A, Vahedi A, Meshkini M, Alikhah H, Naghavi-Behzad M. Atypical medulloblastoma: A case series. *Asian J Neurosurg.* 2014 Jan;9(1):45-7. doi: 10.4103/1793-5482.131077. PubMed PMID: 24891891; PubMed Central PMCID: PMC4038867.

³⁾

Blaser SI, Harwood-Nash DC. Neuroradiology of pediatric posterior fossa medulloblastoma. *J Neurooncol.* 1996 Jul;29(1):23-34. Review. PubMed PMID: 8817413.

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