

Cerebellar metastases differential diagnosis

see also [Intracranial metastases differential diagnosis](#).

In adults with only cerebellar [masses](#), [cerebellar hemangioblastoma](#) and metastasis are the 2 most important differential diagnoses.

[DWI](#) and [Dynamic susceptibility contrast MR perfusion](#) (DSC-PWI) are helpful in the characterization and differentiation of hemangioblastomas from brain metastases. DWI appears to be the most efficient MR imaging technique for providing a distinct differentiation of the 2 tumor types ¹⁾.

High [b value DWI](#) reflects diffusion more accurately than does regular b value. Results showed that [ADC](#) calculation by high b value (b = 4000) DWI at 3-T magnetic resonance imaging is clinically useful for differentiating hemangioblastomas from brain metastases ²⁾.

[Arterial spin labelled imaging](#) can aid in distinguishing hemangioblastoma from metastasis in patients with only cerebellar masses ³⁾.

A case of an infratentorial ganglioglioma in a 56-year-old male, who underwent magnetic resonance imaging (MRI) during the diagnostic workup for suspected [lung cancer](#). The MRI scan revealed a space-occupying lesion of the left lobulus semilunaris superior cerebelli, which was assumed to be [cerebellar metastases](#). The asymptomatic lesion was resected to establish the diagnosis. Histologic and immunohistochemical studies showed a ganglioglioma with World Health Organization grade I characteristics. Although ganglioglioma typically exhibits a supratentorial predilection, it should be included in the differential diagnosis of lesions occurring in the cerebellum ⁴⁾.

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1)

She D, Yang X, Xing Z, Cao D. Differentiating Hemangioblastomas from Brain Metastases Using Diffusion-Weighted Imaging and Dynamic Susceptibility Contrast-Enhanced Perfusion-Weighted MR Imaging. *AJNR Am J Neuroradiol*. 2016 May 12. [Epub ahead of print] PubMed PMID: 27173365.

2)

Onishi S, Hirose T, Takayasu T, Nosaka R, Kolakshyapati M, Saito T, Akiyama Y, Sugiyama K, Kurisu K, Yamasaki F. Advantage of High b Value Diffusion-Weighted Imaging for Differentiation of Hemangioblastoma from Brain Metastases in Posterior Fossa. *World Neurosurg*. 2017 May;101:643-650. doi: 10.1016/j.wneu.2017.01.100. Epub 2017 Feb 4. PubMed PMID: 28179177.

3)

Kang KM, Sohn CH, You SH, Nam JG, Choi SH, Yun TJ, Yoo RE, Kim JH. Added Value of Arterial Spin-Labeling MR Imaging for the Differentiation of Cerebellar Hemangioblastoma from Metastasis. *AJNR Am J Neuroradiol*. 2017 Nov;38(11):2052-2058. doi: 10.3174/ajnr.A5363. Epub 2017 Sep 14. PubMed PMID: 28912280.

4)

Komboz F, Zechel S, Malinova V, Mielke D, Rohde V, Abboud T. Infratentorial Ganglioglioma Mimicking a Cerebellar Metastasis. *Int J Neurosci*. 2022 May 27:1-6. doi: 10.1080/00207454.2022.2082965. Epub ahead of print. PMID: 35633078.

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