

# Sphenoid wing meningioma diagnosis

Following the physical exam, the diagnosis is confirmed with neuro-imaging. Either a head CT or MRI with contrast such as gadolinium is useful, as meningiomas often show homogenous enhancement. Angiography looking for signs like stretched arteries may be used to supplement evaluation of vascular involvement and to determine whether embolization would be helpful if surgery is being considered.

On MRI imaging, T1- and T2-weighted sequences have variable signal intensity, but they enhance intensely and homogeneously after injection of gadolinium. They also tend to exhibit hyperostosis and calcifications which can be seen on either CT or MRI imaging. Additionally, the presence of a dural extension (also known as a dural tail) is helpful in distinguishing a meningioma from fibrous dysplasia.

The preoperative imaging study includes computed tomography (CT) and magnetic resonance imaging (MRI). The CT study was done without and with intravenous contrast and with a protocol study with fine bone cuts. The MRI study always included the T1, T2, FLAIR (Fluid Attenuation Inversion Recovery), diffusion, and T1 with gadolinium sequences. T1 sequences with gadolinium were used to delineate the volume and extent of the tumor. The T2 sequence was used specially to define the relations of the greater vessels of the polygon of Willis's and their main branches with the tumor capsule. Vessels targeted were the M1 and M2 segments of the middle cerebral artery (MCA), the A1 segment of the anterior cerebral artery (ACA) and the internal carotid artery (ICA). Perilesional edema was evaluated with the T2 and FLAIR sequences. Cerebral angiography was only performed in case of suspicion of stenosis of the ICA or large intracranial vessels in the CT and/or MRI study <sup>1)</sup>.

<sup>1)</sup>

González-Darder JM. Combined Extradural and Intradural [Pterional Transzygomatic Approach](#) to Large [Sphenoid Wing Meningiomas](#). Operative Technique and Surgical Results. J Neurol Surg B Skull Base. 2019 Jun;80(3):244-251. doi: 10.1055/s-0038-1668538. Epub 2018 Aug 21. PubMed PMID: 31143566; PubMed Central PMCID: PMC6534744.

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Last update: **2024/06/07 02:51**

