

Cerebellopontine Angle Meningioma Classification

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According to some authors, [cerebellopontine angle meningiomas](#) are mostly [posterior petrous bone meningiomas](#) arising from the [petroclival region](#) ¹⁾.

see [Petrous bone meningioma classification](#)

Posterior petrous bone meningiomas were classified into 3 types following the Desgeorges classification, ²⁾ which is based on the tumor's dural attachment to the posterior petrous bone surface:

Type A (anterior) meningiomas originate from the petrous apex

Type M (middle) meningiomas originate at the level of the internal auditory meatus

Type P (posterior) meningiomas develop from the posterior part of the petrous bone, between the posterior wall of the IAC and the groove of the sigmoid sinus.

CPA meningiomas were classified into three groups, according to the relation of the tumor with respect to the IAC and labyrinth: meningiomas located anterior to the IAC, centered at the IAC, and located posterior to the IAC ³⁾.

Meningiomas are typically classified based on their alteration of the IAC ^{4) 5)}.

Their site of dural origin and their relationship to surrounding neurovascular structures of the CPA is variable.

At operation four general categories of tumor are found, depending on where they arise and their relationship to the seventh and eighth nerve complex:

Anterior to the internal auditory meatus, displacing the seventh and eighth nerves posteriorly and inferiorly

Between the internal auditory meatus and the jugular foramen, displacing the seventh and eighth

nerves superiorly.

Superior to the internal auditory meatus, displacing the seventh and eighth nerves anteriorly in the large tumors

Surrounding the internal auditory meatus, with the seventh and eighth nerves engulfed in the tumor.

Although enlargement and involvement of the internal auditory canal (IAC) is a common sign of schwannomas of the CPA these features can also be seen in meningioma.

Meningioma involvement of the IAC occurs in two forms: meningioma truly originating in the IAC and meningioma extending into the IAC from an adjacent location. While the first form is very rare, the second is relatively common.

Tumors exhibiting partial IAC intrusion are being largely ignored. These latter tumors were included in the study of Gao et al., which is also the first to explore the extent of surgical resection of CPA meningiomas with respect to IAC involvement ⁶⁾.

1)

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2)

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3)

Desgeorges M, Sterkers O, Sterkers JM. Posterior surface of petrous bone meningiomas: Choice of surgical approach and comparison between standard microsurgical techniques and the use of a microscope-guided laser. In: Tos M, Thomsen J, eds. *Acoustic Neuroma*. Amsterdam, the Netherlands: Kugler Publications; 1992.

4)

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5)

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6)

Gao K, Ma H, Cui Y, Chen X, Ma J, Dai J. Meningiomas of the cerebellopontine angle: radiological differences in tumors with internal auditory canal involvement and their influence on surgical outcome. *PLoS One.* 2015 Apr 7;10(4):e0122949. doi: 10.1371/journal.pone.0122949. eCollection 2015. PubMed PMID: 25849220.

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