

# Cerebellomedullary fissure approach

The trans [cerebellomedullary fissure](#) (CMF) approach provides good exposure of the [fourth ventricle](#) without splitting the inferior [vermis](#). The popularly utilized trans-CMF approach is performed in the midline suboccipital approach. However, the trans-CMF approach actually has two routes: medial and lateral. The lateral route is the trans-CMF approach through a lateral foramen magnum approach such as the [transcondylar approach](#), opening the CMF from the lower unilateral side.

Kawashima et al. studied the surgical anatomy of the CMF and fourth ventricle. Based on the anatomic findings, and adopted the lateral route of the trans-CMF approach for four patients, each with a tumor near the jugular tubercle extending into the fourth ventricle through the CMF. The study demonstrated that the lateral route of the trans-CMF approach enables sufficient exposure of not only unilateral cerebellopontine cistern but also of the lateral part of the fourth ventricle. A tumor is safely removed by this approach with easy feeder or tumor bed controls, especially if it is anchored at the lateral part of the CMF as is the jugular tubercle meningioma.

Cerebellomedullary fissure dissection and tonsillar mobilization: is a gateway to lesions around the medulla <sup>1)</sup>.

The [cerebellomedullary cistern](#) (CMC) was present at the lateral end of the CMF. The CMF was closed by arachnoidal adhesion, and the [cerebellar hemisphere](#) was superiorly attached to the [cerebellar peduncle](#). After the unilateral CMF was completely opened, the cerebellar hemisphere was easily retracted rostr dorsally. Clinically, almost completely opening the unilateral CMF markedly enabled the retraction of the [biventral lobule](#) to obtain a wide surgical field safely for vascular CMC lesions.

Combined unilateral trans-CMF/lateral foramen magnum approaches provide a wide and close surgical field in the CMC, allowing easy and safe CMC surgery <sup>2)</sup>.

<sup>1)</sup>

Abla AA, Lawton MT. Cerebellomedullary fissure dissection and tonsillar mobilization: a gateway to lesions around the medulla. World Neurosurg. 2014 Nov;82(5):e591-2. doi: 10.1016/j.wneu.2014.06.017. Epub 2014 Jun 14. PubMed PMID: 24937601.

<sup>2)</sup>

Matsushima T, Kawashima M, Inoue K, Matsushima K, Miki K. Exposure of Wide Cerebellomedullary Cisterns for Vascular Lesion Surgeries in Cerebellomedullary Cisterns: Opening of Unilateral Cerebellomedullary Fissures Combined with Lateral Foramen Magnum Approach. World Neurosurg. 2014 Apr 30. pii: S1878-8750(14)00447-1. doi: 10.1016/j.wneu.2014.04.064. [Epub ahead of print] Review. PubMed PMID: 24793562.

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Last update: **2024/06/07 02:52**

