Awake Microvascular Decompression for Trigeminal Neuralgia

Abdulrauf et al. evaluated the use of microvascular decompression (MVD) under an awake anesthesia protocol ("awake" MVD) to assess whether intraoperative pain evaluation can identify and mitigate insufficient decompression of the trigeminal nerve, improving surgical outcomes, and possibly expand the indications of MVD in patients with comorbidities that would preclude the use of general endotracheal anesthesia (GEA).

An Institutional Review Board-approved prospective study of 10 consecutive adults who underwent Microvascular Decompression for Trigeminal Neuralgia was conducted. The primary outcome measure was postoperative TN pain quantified on the Barrow Neurological Institute (BNI) Pain Severity Scale.

The median patient age was 65.5 years, with a female:male ratio of 6:4. All 10 patients tolerated the procedure well and did not require GEA intraoperatively or postoperatively. Nine patients had a successful surgical outcome (BNI score I, n = 5; BNI score II, n = 4). One patient did not have pain relief (BNI score IV). This same patient also developed a pseudomeningocele, which was the sole surgical complication observed in this series. One patient experienced recurrence of pain at 11 months, with BNI score increasing from I to II. The median duration of follow-up was 16.5 months. Two patients did not experienced resolution of evoked pain during intraoperative awake testing following decompression. Further intraoperative exploration revealed secondary offending vessels that were subsequently decompressed, leading to resolution of pain.

Intraoperative awake testing for treatment efficacy may increase the success rate of MVD by rapidly identifying and mitigating insufficient cranial nerve V decompression [1) 2)].

1)
Abdulrauf SI, Urquiaga JF, Patel R, Albers JA, Sampat VB, Baumer M, Marvin E, Pierson M, Kragel R, Walsh J. Awake Microvascular Decompression for Trigeminal Neuralgia: Concept and Initial Results. World Neurosurg. 2018 May;113:e309-e313. doi: 10.1016/j.wneu.2018.02.019. Epub 2018 Feb 13. Erratum in: World Neurosurg. 2019 Aug 24;131:80. PubMed PMID: 29452326.

2)
Abdulrauf SI, Urquiaga JF, Patel R, Albers JA, Sampat VB, Baumer M, Marvin E, Pierson M, Kragel R, Walsh J. Corrigendum to 'Awake Microvascular Decompression for Trigeminal Neuralgia: Concept and Initial Results' [World Neurosurgery 113 (2018) e309-e313]. World Neurosurg. 2019 Aug 24;131:80. doi: 10.1016/j.wneu.2019.07.190. [Epub ahead of print] PubMed PMID: 31454667.