

Abnormal muscle response

An intraoperative abnormal [muscle response](#) (AMR) has been a reliable diagnostic tool and indicator of complete [facial nerve decompression](#). An AMR is elicited by stimulation of a facial nerve branch and is recorded from facial muscles innervated by other nerve branches.

To perform a comprehensive meta-analysis to systematically assess the value of abnormal muscle response (AMR) in predicting the surgical outcome of patients with hemifacial spasm (HFS).

METHODS: The electronic database PubMed, Embase, Web of Science and ScienceDirect were searched, and relevant articles were identified up to September 30, 2019. The data were extracted for pooled analysis, heterogeneity testing, sensitivity analysis, publication bias analysis, and Fagan plot analysis.

RESULTS: The disappearance of AMR during microvascular decompression (MVD) was associated with a favorable short-term surgical outcome (pooled RR [relative risk], 1.42; 95% confidence interval [CI], 1.24-1.62; pooled RR adjusted for publication bias, 1.30; 95% CI, 1.08-1.57). The corresponding pooled sensitivity, specificity, positive likelihood ratio (PLR), negative likelihood ratio (NLR), and diagnostic Odds Ratio (DOR) were 0.91 (95% CI, 0.88-0.94), 0.34 (95% CI, 0.27-0.42), 1.4 (95% CI, 1.2-1.6), 0.26 (95% CI, 0.17-0.38) and 5 (95% CI, 3-9), respectively. The disappearance of AMR was almost ineffective in predicting the long-term surgical outcome (pooled RR, 1.09; 95% CI, 1.02-1.17; pooled RR adjusted for publication bias, 1.001; 95% CI, 0.92-1.09). The corresponding pooled sensitivity, specificity, PLR, NLR, and DOR were 0.90 (95% CI, 0.85-0.93), 0.28 (95% CI, 0.20-0.37), 1.2 (95% CI, 1.1-1.4), 0.38 (95% CI, 0.22-0.63) and 3 (95% CI, 2-6), respectively.

CONCLUSIONS: The disappearance of AMR during MVD demonstrate limited prognostic value for a favorable short-term outcome, and does not appear effective in predicting the long-term outcome of patients with HFS ¹⁾.

¹⁾

Zhang J, Li ZH, Wang JF, Chen YH, Wang N, Wang Y. Prognostic value of abnormal muscle response during microvascular decompression for hemifacial spasm: a meta-analysis. World Neurosurg. 2020 Jan 29. pii: S1878-8750(20)30184-4. doi: 10.1016/j.wneu.2020.01.166. [Epub ahead of print] Review. PubMed PMID: 32006731.

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