



Concordance Between Intraoperative Findings and Preoperative MRI in Microvascular Decompression for Trigeminal Neuralgia

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Introduction

The authors aimed to investigate the value of a preoperative MRI to identify vascular compression in patients with trigeminal neuralgia (TN) destined to undergo microvascular decompression (MVD).

Methods

The records of 40 patients with TN who underwent MVD between 02/2004 and 01/2015 with a preoperative MRI were reviewed. Based on review of the operative record and intraoperative photographs when available trigeminal nerve compression was categorized as arterial, venous, or none. Two independent and blinded radiologists reviewed the preoperative MRI and likewise categorized trigeminal nerve compression in each case.

Results

At the time of surgery, 6 patients were found to have trigeminal nerve compression by a vein, 3 revealed no offending vessel, and the remaining 31 had arterial vascular compression. Preoperative MRI review correlated with the operative findings in all cases except five. In three cases of arterial compression, MRI revealed none in two cases and was suggestive of a vein in the other. In one case of venous compression, MRI revealed none. In a final case, in which no evidence of compression was noted at surgery, the preoperative MRI review was interpreted as positive for arterial compression. Overall, there was a disagreement rate of 12% (5/40) between preoperative imaging review and intraoperative findings. There was agreement in 88% (35/40).

Conclusions

In cases of TN, when the decision to proceed with surgical intervention with MVD has been made, the value of MRI in identifying the presence or absence of an offending vessel is not infallible. Thus we conclude that the decision to proceed with MVD or not should be based on clinical criteria, not imaging findings.

Learning Objectives

At the end of this session, participants will be able to:

1. Understand the role of preoperative imaging in microvascular decompression for Trigeminal Neuralgia.
2. Know the concordance rates of preoperative imaging for microvascular decompression patients and findings noted at surgery.
3. Understand that there remains a group of people with compression noted at surgery that may not be noted on standard preoperative imaging.

References

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