3D-BRAVO

To explore the guidance value of preoperative 3-dimensional brain volume (3D-BRAVO) and 3-dimensional time-of-flight (3D-TOF) MRA scanning for microvascular decompression.

One hundred thirteen patients treated with microvascular decompression from February 2016 to February 2018 in the First Affiliated Hospital of Dalian Medical University were retrospectively analyzed. All patients received 3D-BRAVO combined with 3D-TOF MRA sequence reconstruction before the operation. The anatomical relationship of neurovascular tissues was analyzed and compared with the results of intraoperative exploration.

The results of MVD showed that the number of positive cases was 108 (95.6%) on the diseased side. 3D-BRAVO combined with 3D-TOF sequence reconstruction resulted in 106 positive cases (93.8%), with a 98.1% positive coincidence rate and a 13.2% false positive rate ($p < 0.05$). 3D-BRAVO-TOF sequence reconstruction of trigeminal neuralgia showed a positive coincidence in 78 cases (92.8%) and for hemifacial spasm a positive coincidence was found in 27 cases (93.1%).

3D-BRAVO combined with 3D-TOF sequence reconstruction before microvascular decompression can fully evaluate the morphology, location, and anatomical relationship of lesions, which is of guidance value for clinical diagnosis and treatment [1].

1)
Li J, Wang Y, Lian Z, Liu R, Liang Z, Song C, Song Q, Wei Z. The Value of Three-Dimensional Brain Volume Combined with Time-of-Flight MRA in Microvascular Decompression. Stereotact Funct Neurosurg. 2019 Jul 9:1-7. doi: 10.1159/000500995. [Epub ahead of print] PubMed PMID: 31288239.