Meniere’s disease presented with micro vascular compression of the vestibulocochlear nerve

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Neurovascular compression syndrome (NVCS) of the vestibulocochlear nerve may lead to different symptoms, including disabling vertigo, hearing loss, tinnitus and imbalance. However, significant controversy persists among clinicians in the diagnosis and the management of this syndrome.

The Aim of the presentation is to report this controversy on management of the neurologic disease.

Case presentation:

A 41 year-old-woman presented at our clinic with a 4-year history of Meniere’s disease. She is a teacher at the University and a candidate for doctoral thesis. The patient’s symptoms resolved after surgery with a follow-up of 5 years.

Results:

The patient underwent a left retro sigmoid approach. Intraoperative findings proved the radiologic findings.

Microscopic view : loop of the left AICA encircles the vestibulocochlear nerve

Endoscopic view : Mobilisation of the loop of the AICA in contact with the vestibulocochlear nerve

The AICA loop was mobilized and Teflon pad was interposed and separated from the vestibular nerve.

The patient’s symptoms resolved after surgery with a follow-up of 5 years.

Discussion:

Vascular compression syndrome of the cranial nerves, first suggested in 1934 by Dandy (1) and popularized by Jannetta in the 1970s(2), are gaining acceptance with the improvement in MRI assessment and the success of endoscope-assisted microvascular decompression (MVD).

To confirm the diagnosis the simple presence of contact is not sufficient, several radiological criteria are required. For the auditory nerve, we expect to see displacement of the nerve with a certain distance between the facial and the cochlear nerves, with an imprint on the nerve and reduction of the diameter, and with brain stem distortion caused by vascular structure at the level of the REZ of the cochlear nerve(3-4).

MVD(microvascular decompression) of the vestibulocochlear nerve is not always successful (especially with regard to the improvement of tinnitus). In a study regarding MVD treatment for a selected group of 62 patients, Mi-hier and Mi-lier showed that 11% of patients had only slight improvement, 45.6% had no improvement, and 2.8% became worse, they showed that the success of such surgery depends on the duration of symptoms before the operation(5).

Conclusion:

In the management of Meniere’s disease, MRI should include sequences that are capable of demonstrating vascular anomalies in patients with persistent tinnitus and vertigo.

The rate of success of surgical decompression is satisfactory. However, it is still difficult to consider neurovascular compression of the eighth cranial nerve as a major cause of disabling vertigo and tinnitus.

References

5- Mi-hier AR, Mi-lier WS. Microvascular decompression operations.Prog Brain Res 2001;116:379-400.