Microvascular Decompression Complications

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Microvascular decompression (MVD) has a satisfactory safety, and it is the only surgical treatment for neurovascular compression diseases, such as hemifacial spasm, trigeminal neuralgia, and glossopharyngeal neuralgia, from the perspective of etiology.

Microvascular decompression (MVD) is a surgical procedure used to relieve pressure on a nerve root in the brainstem. While the procedure has a high success rate, like all surgeries, it does carry some risks and potential complications.

Some possible complications of microvascular decompression include:

Bleeding: Bleeding can occur during or after the surgery, which may require additional medical intervention.

Infection: Infection can occur at the site of the surgery or in the brain, which can lead to serious complications.

Nerve damage: Nerve damage can occur during the surgery, which may lead to a range of symptoms, including weakness, numbness, and paralysis.

Hearing loss: MVD can lead to hearing loss in some cases, particularly if the acoustic nerve is damaged during the procedure.

Balance problems: MVD can cause balance problems or vertigo, which may persist for several weeks or months after the surgery.

Cerebrospinal fluid leak: In rare cases, MVD can cause a cerebrospinal fluid leak, which may require further medical intervention.

It's important to note that while these complications are possible, they are relatively rare.

Bilateral dilated and fixed pupils have long been regarded as a sign of life threatening, which is common in patients with brain herniation due to intracranial hypertension. However, transient dilated pupils after MVD have not been previously reported.

Wang et al. presented 2 patients with bilateral transient dilated and fixed pupils after MVD and discussed the possible etiologies through the literature review. Physical examination of both patients showed bilateral pupils were normal and without a medical history of pupil dilation. They underwent MVD under general anesthesia and used propofol and sevoflurane. In both cases, the vertebral artery was displaced, and Teflon pads were inserted between the vertebral artery and the brain stem. Postoperation, we found transient bilateral mydriasis without light reflection in both patients. The emergency head computed tomography revealed no obvious signs of hemorrhage and cerebral herniation. About 1 hour later, this phenomenon disappeared. Therefore, the authors think if MVD is successfully carried out, bilateral transient mydriasis may not necessarily indicate brain stem hemorrhage, cerebral herniation, and other emergency conditions, which can be recovered within a short time. The causes could be related to stimulation of the sympathetic pathway in the brain stem during MVD and side effects of anesthetics [1)].

Microvascular decompression for trigeminal neuralgia complications

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1)
Wang L, Fan H, Xu X, Su S, Feng W, Wu C, Chen Y. Bilateral Transient Dilated and Fixed Pupils After Microvascular Decompression: Rare Clinical Experience. J Craniofac Surg. 2023 Mar 21. doi: 10.1097/SCS.0000000000009293. Epub ahead of print. PMID: 36941233.