Vertebral artery dolichoectasia leading to hemifacial spasm

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CASE REPORT

A 45-year-old male presented to the ophthalmology clinic complaining of constant twitching in the left face for three years, associated with a moderate left temporal headache. He was noted to have tonic-clonic contractions of the left orbicularis oculi and oris muscles (Figure 1, Video 1). MR imaging through the posterior fossa (Figure 2) demonstrated compression of the pons at the facial nerve root entry zone by an ectatic left vertebral artery. The patient’s symptoms improved with botulinum neurotoxin injections. The most common etiology of hemifacial spasm is compression of the facial nerve as it emerges from the brainstem by ectatic vessels.

DISCUSSION

Vertebrobasilar dolichoectasia is a rare dilative arteriopathy defined as elongation or widening of the intracranial vertebral and/or basilar arteries [1]. Hemifacial spasm (HFS) involves involuntary and painless spasms of the muscles supplied by the facial nerve starting with spasm of the orbicularis muscle and then progressing to involve all the facial muscles [2]. Although the compression of the facial nerve can be caused by tumors or bony abnormalities, compression by a blood vessel is the most common [2]. The diagnosis of HFS due to

Figure 1: Patient had tonic-clonic contractions of the left orbicularis oculi and oris muscles.

Figure 2(A, B): MR imaging through the posterior fossa demonstrated compression of the pons at the facial nerve root entry zone by an ectatic left vertebral artery.
VAD necessitates imaging techniques whereby magnetic resonance imaging (MRI) and magnetic resonance angiography (MRA) are the optimal imaging techniques for demonstrating the compression [3]. The two most commonly reported treatments for hemifacial spasm in the literature are botulinum toxin injections and surgical microvascular decompression. Botulinum toxin injection is clinically successful for long term management with low incidence of adverse effects [4]. It has been usually used as a first line treatment [5]. In our case, few Botox injections helped alleviate the patient’s symptoms for a prolonged period. Surgical microvascular decompression is the permanent treatment option. However, a small chance of serious complications do exist such as deafness, severe facial paralysis, cerebellar hematoma, brain stem infarct, and very rarely death [6].

CONCLUSION

Vertebrobasilar dolichoectasia (VBS) can rarely compress the facial nerve at the root leading to hemifacial spasm. The diagnosis necessitates the use of MRI or MRA. Treating with Botox injections have been effective. Although surgical microvascular decompression is the permanent treatment option, several serious side effects have been reported.

REFERENCES


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