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Editorial

Microvascular Decompression for Primary Hemifacial Spasm

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Abstract

Hemifacial spasm is a rare disease characterized by involuntary muscle contractions in one side of the face; it has an incidence of less than 1 in 100,000 people. It consists of a progressive, spontaneous and intermittent appearance of contractions of the muscles involved in facial expression.

Hemifacial spasm has an important psychological and cosmetic effect in patients; in advanced cases, vision may also be affected. In our experience, primary hemifacial spasm is a disease that usually begins between 41 and 60 years with an average of 50 years.

However, different literature series suggests that the age of appearance can vary between 18 and 77 years. Most patients are female with an incidence of 2.4 women over men. The most affected side of the face is the left side. It has been suggested that the predominance of the left side may be due to a predisposition of the embryological position in relation to the facial nerve compression and the compressed vessel in the entry zone of the nerve on the left side. The nerve compression at the brainstem is almost always seen on magnetic resonance imaging (MRI).

Bilateral hemifacial spasm is very rare.

The definitive treatment is Microvascular Decompression (MVD) of the facial nerve in the cerebello-pontine angle, which cures the disease in 80 to 90% of patients.

Keywords: *Hemifacial Spasm; Neurovascular Compression; Facial Nerve; Microvascular Decompression*

Introduction

Hemifacial spasm is a very frequent disease that affects the muscles of the face, unilateral, producing deformity and psychological problems. Nowadays, the main cause of the hemifacial spasm (and now worldwide accepted) is the compression of the facial nerve in the entry zone (REZ) at the brain stem. From the pathophysiological point of view, the constant pulsation of the vessel over the nerve produces focal demyelization responsible for intermittent hyperactivity of the facial nerve. Over the last 20 years, Microvascular Decompression in the Cerebello Pontine angle has become the most common surgical treatment for this condition; with a high rate of excellent results.

In the majority of cases the hemifacial spasm disappears immediately after surgery or within a few days. The extensive works of P Jannetta., *et al.* at the University of Pittsburg, have shown the efficiency of this method.

Surgical Technique

The patient is placed in the contralateral decubitus position with the head lightly flexed, avoiding jugular compression. Skin incision is about 6 cms long, medial to the mastoid. The craniectomy is 2 cms diameter, located posterior to the sigmoid sinus, which must be exposed to make the approach as lateral as possible. In some cases, the mastoid cells are open and must be occluded with muscle and bone wax. The duramater is opened with a flap over the sigmoid sinus. A Yasargil self retaining retractor with a 2 mm. spatula is used to retract the infero-lateral aspect of the cerebellum, which is protected with cottonoid. The arachnoid covering the lower cranial nerve (IX-X-XI) is open exposing the choroid plexus and flocculus. We must avoid excessive lateral retraction of the cerebellum and the eighth cranial nerve, to prevent post-operative hearing problems. It is very important, when possible; to use monitoring of brain stem auditory evoked potential BAEP. The flocculus is retracted and separated from the eighth nerve with division of the pia-arachnoidal adhesion. It is very important to know that the origin of the facial nerve is lower than the eighth nerve. Once the compressive vessel is identified, we use small pieces of Teflon felt, to be placed between the artery and the nerve. After the decompression we have to check that the vessels are not twisting or kinked. Meticulous hemostasis is achieved and abundant irrigation of the surgical field is done. The dura is closed in a watertight modality, usually with a piece of facia from the retro-mastoid region.

Complications

In general, complications are very rare. The most frequent neurological deficit is the hearing loss, almost always due to excessive lateral retraction of the cerebellum. Facial deficit occurs in approximately 3% of cases.

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