Hemifacial Spasms

An e-book

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Introduction

Hemifacial spasm is a neuro-muscular disorder that causes a twitching of the facial muscles on one side of the face. The twitching of the facial muscles is involuntary, appears like winking, and can cause considerable embarrassment to the patient. Hemifacial spasms typically begin with infrequent twitching of the eyelid muscles, and then gradually spreads to one half of the face. Though it can occur in both men and women, the percentage of women getting affected is more. The most common cause of hemifacial spasms is a blood vessel pressing the facial nerve just where it exits the brainstem.

FAQs: Frequently Asked Questions

What are hemifacial spasms?

Hemifacial spasms, facial twitching, repeated winking or blinking, or twitching of facial muscles all mean the same thing – repeated, uncontrolled contractions of facial muscles on one side of the face. These spasms usually appear when the patient starts talking. They can also occur when not talking.

How do the spasms appear to the observer?

One side of the person's face appears to be repeatedly contracting. It usually starts in the muscles surrounding the eye. The muscles surrounding the eye appear to be repeatedly contracting. The eye shuts and opens again repeatedly. Slowly the cheek on that side also starts to contract repeatedly. Angle of the mouth gets pulled to the same side.

For an observer, it appears as if the person is repeatedly winking with that eye and making strange gestures, giving it the name 'winking disease'.

The disease is generally progressive and as the months pass by, the spasms appear as soon as the person starts talking.

What is the cause of Hemifacial spasms (facial twitching)?

Hemifacial spasms can occur due to a variety of problems. The commonest and most effectively treatable cause is the compression of the nerve by a blood vessel at a very vulnerable area called as the root entry zone (REZ). This is the area where the nerve exits from the brainstem (lower part of the brain).

Some people genetically have blood vessels very close to this region and as age advances, these blood vessels elongate (increase in length). This condition is medically called ectasia. Such elongation occurs in every person with age, but in patients with hemifacial twitching, this causes the already close blood vessel to progressively compress or 'burrow" into the REZ region of the nerve. This in turn causes persistent pulsatile compression of the nerve leading to internal changes in the nerve (demyelination). This actually causes hemifacial spasms. This also explains why, when the offending blood vessel is gently moved away and kept separated (as is done in Micro vascular Decompression surgery) the hemifacial spasms disappear.

Can any other compression cause facial twitching / hemifacial spasms?

Rarely, compression of the REZ by tumours (growths) can cause hemifacial spasms, but it is rare as compared to the more common blood vessel pressing on the REZ. In our research study we found that even if a tumour is causing hemifacial spasms, it usually does so by pushing a blood vessel against the nerve.

Are there any non-compressive causes of hemifacial spasms?

Facial nerve trauma or Bell's palsy, followed by internal nerve repair by the body can occasionally lead to HFS. Old stroke, multiple sclerosis are other uncommon causes.

What is the treatment for facial twitching / hemifacial spasms?

At Dr. Jaydev Panchawagh's Hemifacial Spasms Centre, we believe in aiming at permanently curing the hemifacial spasms with Micro-Vascular Decompression surgery.

When a progressively elongating artery has lodged and burrowed into the facial nerve, it continuously beats against the nerve fibres causing damage by progressive demyelination. It has been proven that this indeed happens. The longer the period for which the artery is allowed to beat against the nerve, more will be the severity of the spasms and worse will be the chances of complete cure by MVD surgery. So, considering a long-term perspective, we feel that Micro-Vascular Decompression surgery should be performed rather early in the course of the disease.

When a patient comes to us with the symptom of hemifacial spasm, typically, we elicit a detailed history to rule out causes other than vessel compression (like Bell's palsy, stroke, etc). Then, the patient is asked to undergo a high quality (3 Tesla) MRI with specific to study the facial nerve in the REZ region. The final step is to actually perform the micro vascular decompression surgery.

Are there any other treatment options available to avoid hemifacial surgery?

Unfortunately, there is no other treatment which removes the basic cause of the hemifacial spasms. Botox (Botulinum toxin) injections have been tried, but are short lived and do not remove the basic cause of the problem (vessel compression). It has no potential of offering permanent cure. Micro-Vascular Decompression on the other hand has a very high chance of offering permanent cure (more than 98%) when the selection is done meticulously.

Botulinum toxin (Botox) is actually a toxin that is poison from bacteria. It is injected in the twitching muscles and it causes incomplete paralysis of the face. So, the spasms stop temporarily for about 3 months. The problems of mask-like face after injection and very short

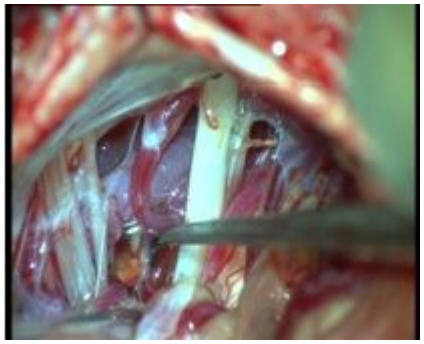
duration of effect. But more importantly, the blood vessel compressing the nerve continues to silently cause progressive nerve damage and demyelination. The spasms come back with increased intensity, sabotaging the possibility of permanent cure by micro vascular decompression. And therefore, We believe that there is no alternative to early micro vascular decompression.

How is Micro-Vasuclar Decompression Surgery for hemifacial spasms performed?

This surgery is performed under General anaesthesia. A small incision behind the ear inside the hairline is used. Surgery is performed with a high-end neuromicroscope. In essence, the offending compressing blood vessel is carefully dissected off and dislodged from the REZ and is kept separated by teflon sponge.

The surgery typically takes two hours at Dr. Jaydev Panchawagh's Hemifacial Spasms centre.

A Highly trained team, a neurosurgeon experienced in this type of surgery, and top class equipments are mandatory to deliver excellent results. The spasms stop totally almost immediately after surgery in most cases (in 90 percent according to our study), and in others slowly go on reducing over the next fifteen days or so and then disappear in the remaining 9 percent. Thus, the final success rate is about 99 percent.



Facial Nerve and Vessel exposed

Teflon sponge inserted between nerve & vessel

Typical hospitalization time after surgery is three to four days. Ambulation is allowed twenty four hours after surgery.

What are international results of MVD surgery done for hemifacial spasms?

There are many large research studies available on treatment of hemifacial spasms by micro vascular decompression surgery. Considering the rapid improvements in the neurosurgical instrumentation, neuro-microscopes, neuro-anaesthesia and neuro-intensive-care, the results of these surgeries have remarkably improved in last few years and hence it would be prudent to refer to a large series done only after the year 2000.

One such series is summarised here, in a paper written by Hyun S J, Kong DS & Park K in 2010 July issue of Neurosurgery Review. It describes 1174 patients operated between 1997 and 2009. Out of 1174 patients, 1105 patients (that is 94.1% patients) were totally 'cured' (no spasms) and out of the remaining 5.9% patients, majority had good outcome with only few residual spasms.

In our personal series of 67 patients, operated between the year 2010 to 2014 by a single neurosurgeon (Dr. Jaydev Panchawagh) with almost the same assisting and anaesthesiologist's team, 99% had complete relief (follow up 7 months to 4 years) and 1% had remarkably improved status.

Majority of the large series reported before 2010, including that of Dr. Peter Jannetta, have emphasized that the success of Micro-Vascular Decompression surgery for hemifacial spasms tends to be long lasting and recurrence is rare. Complications are rare including transient facial paresis and transient hearing loss in 1 to 2 % of patients, and extremely rare incidence of permanent deficits. In short, Micro-Vascular Decompression for facial twitching in a modern-facility neurosurgical centre is a reasonably safe, effective and dramatic surgery; it has the potential to cure hemifacial spasms.

Why has a specific centre been developed for Micro-Vascular Decompression surgery to treat hemifacial spasms by Dr. Jaydev Panchawagh?

The results of surgery for Micro-Vascular Decompression for hemifacial spasms tend to be far better when careful diagnosis, selection and workup has been done. Also, this peculiar surgery needs not only an experienced and skilled neurosurgeon, but also a team highly experienced in this operation, taking into account various factors. With these considerations, this centre for MVD surgery was established. Till date we have performed more than 850 Micro-Vascular Decompression surgeries (including those for Trigeminal neuralgia, Glossopharyngeal neuralgia and Hemifacial spasms), with the same team of surgical assistants and anaesthesiologists (operations performed by a single surgeon).

What are the factors determining success of hemifacial spasms surgery?

In our opinion, this surgery is likely to be very successful if:

1) Patients are carefully chosen (e.g.hemifacial spasms post-facial nerve injury or post-stroke patients, syndromes which look similar to hemifacial spasms etc should be excluded.)

2) The same team operates on the patient. The success rate is likely to be higher if a neurosurgeon and team experienced and interested in this surgery performs the surgery.

Please read the testimonials and view the actual results

Dr. Jaydev Panchawagh (Neurosurgeon) who heads the Micro vascular Decompression unit will personally see you and discuss the treatment options.