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Editorial

Hemifacial spasm: Is teflon the permanent and ultimate cure?

Roli Agrawal[1], Mayukh Pandit[2,*], Sanjay Nyamati[3], Annapoorna H B[4], Swapnil Agrawal[5]

[1]*Dept. of Pedodontics, Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur, Chhattisgarh, India*
[2]*Dept. of Anatomy, Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur, Chhattisgarh, India*
[3]*Dept. of Oral Medicine and Radiology, Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur, Chhattisgarh, India*
[4]*Dept. of Community Dentistry, Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur, Chhattisgarh, India*
[5]*Dept. of Oral and Maxillofacial Surgery, Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur, Chhattisgarh, India*

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1. Background

Hemi facial Spasm also known as tic convulsif in simpler terms could be defined as disorder of nerve and muscles which causes involuntary muscle spasm on one side of the face usually left one, caused by offendation of nerve.

In 1875, hemifacial spasm was first introduced by F. Schultze who described this disorder in 56 years old man with involuntary twitch in his left side of face. Later on his post-mortem revealed left vertebral artery was offending the facial nerve.[1] Gowers elaborated and showcased this complex syndrome with its vast study in the year 1888. Hemifacial Spasm occurs irrespective of age and gender but it's prevalence of incidence is commonly observed in females over 40 years of age.[2]

2. Discussion

2.1. Hemifacial spasm

2.1.1. What are the most common sign and symptoms observed in patients of hemifacial spasm?

The first and foremost common sign observed in this case is twitching of muscles of eyelid which could vary in intensity.[3] The involuntary twitch or contraction of muscles is usually uncontrollable and painless. After affecting the muscles of eyelid initially, it could progress in severe case of Hemifacial Spasm to orbiculis oris, zygomaticus and frontalis muscles and will cause twitch in this muscles.

2.1.2. What is the main cause of hemifacial spasm?

There are various theories which was proposed to elict on cause of hemifacial spasm. Out of all accepted theory was based on compression of facial nerve offended by vessels of posterior circulation.[4]

* *Corresponding author.*
E-mail address: mayukhpandit17@gmail.com (M. Pandit).

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Our seventh cranial nerve sometimes due to underlying cause gets offended by vertebral artery.

This offendation leads to damage of myelin sheath around facial nerve causes local demyelination. This condition could also lead to damage to seventh cranial nerve leading to severe complications in patients.

There are many disorders which mimic this form of Neurovascular Compression syndrome.[1,5]

1. Blepharospasm.
2. Motor tics.
3. Aberrant regeneration after facial nerve injury.
4. Psychogenic Hemifacial Spasm.

2.1.3. What are the possible treatments available for cure of hemifacial spasm?

The treatment choice to relieve the symptoms and aim to possibly cure this disease permanently includes oral pharmacotherapy, botulinum toxin and surgical decompression procedures such as MVD.

2.2. Therapy

2.2.1. Oral pharmacotherapy

The medications which are usually prescribed in patients of hemifacial spasm to get relieve includes

1. Carbamazepine (Drug of Choice)
2. Gabapentin
3. Topriamate
4. Diazepam
5. Clonazepam

These drugs are very effective in mild cases of patients suffering from this disorder. The most common adverse effects observed are drowsiness, nausea, dependence and skin rash.[6]

2.2.2. Botulinum toxin therapy

Botox is derived from C.botunilium bacteria and is injected with very fine needle into the affected muscles, which would be very effective in cases of primary hemifacial spasm.[7]

Its effect is actually observed in 3-6 days after therapy. However there are adverse effects of this treatment which widely include eye irritation & sensitivity, temporary weakness of face and also sometimes drooping eyelids.

2.2.3. Surgical decompression therapy

There are several surgical procedures which are employed to relief the symptoms of Hemifacial Spasm. Out of all surgical procedures, Microvascular Decompression Surgical Procedure is the most effective surgical procedure to achieve long term effect of cure with no recurrence and for longer duration. Since Hemifacial Spasm occurs due to compression of facial nerve with offending vessels, MVD have been reported to relieve this abnormal compression caused due to offendation of vascular structure to VIIth C.N.

In Microvascular Decompression Surgery, craniotomy is first approach to proceed where 3 inch incision is made in mastoid region. With the application of retractors, getting a proper exposure of brain, identification of offending vessels causing the compression is made. Then with introduction of the utmost important element i.e. Telfon Sponge is placed in between the offendation. Teflon Sponge decompress the nerve by separation of offending vessels. With the application and placement of Teflon, hemifacial spasm could be cured effectively for longer duration.

3. Conclusions

We couldn't conclude that MVD could be the permanent treatment for Neurovascular compression Syndromes as widely reported with major complications such as status epilepticus, cerebellar swelling, infection of brainstem, infarction in territory of posterior cerebellar artery and intracerebellar hematoma. The most common and usual complications in post operation was reported where nerve damage including double vision, dysphagia, facial paralysis, hearing loss and also leakage of cerebrospinal fluid.

3.1. Is teflon is ultimate and permanent cure for NVCS?

According to report in journal, it stated that after 5-10 years of Microvascular Decompression Surgery, due to excessive application of implant Teflon resulted in a condition called as Teflon Granuloma.

Teflon Granuloma is an inflammatory giant cell body reaction to polytetrafluoroethylene fibers.

Teflon Granuloma could emulate malignancy both clinically and pathologically.[8]

Thereby with the facts of its complications, Teflon could not be stated as ultimate cure for Neurovascular compression syndrome.

We conclude that there must be vast research conducted to address this form of disorders with permanent and ultimate solution, so that people suffering from such deliberating disorders could get permanently cured without any form or recurrence and sufferings thus leading a prosperous life ahead.

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5. Conflict of Interest

The author declares that there is no conflict of interest.

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Author biography

Roli Agrawal, Reader

Mayukh Pandit, Board Certified Researcher

Sanjay Nyamati, Principal

Annapoorna H B, Head of Department

Swapnil Agrawal, Head of Department

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