Surgical Management of Coexisting Trigeminal Neuralgia, Hemifacial Spasm, and Glossopharyngeal Neuralgia by Microasterional Approach

By Armando Morales, MD, Shery Lane Sanchez, MD & Richard Gonzalo Párraga, MD

Abstract:

Background: Compression of multiples cranial nerves at the entry zone in the brainstem is called hyperactive dysfunction syndrome. Caused by the dolichoectasia basilar artery that compress V, VII-VIII and IX cranial nerves, in our patient it caused trigeminal neuralgia, hemifacial spasm and glossopharyngeal neuralgia, that is a very rare condition, probably less than 1% of rhizopathies published. There are at least 9 cases reported in the reviewed literature. This case would be the 10th reported case. This is the first case treated with a Microasterional approach with a backup video.

Case Description: In these cases we are reporting a patient diagnosed with trigeminal neuralgia, hemifacial spasm and glossopharyngeal neuralgia, caused by the dolichoectasia basilar artery, caused by microvascular compression. In which case an Microasterional approach was performed. A microsurgical dissection was performed, separating the artery from the nerves, and interposing a non-absorbable sponge between the nerves and vessels.

Keywords: decompression surgery, hemifacial spasm, glossopharyngeal neuralgia, microasterional approach, trigeminal neuralgia.


Strictly as per the compliance and regulations of:
Surgical Management of Coexisting Trigeminal Neuralgia, Hemifacial Spasm, and Glossopharyngeal Neuralgia by Microasterional Approach

Surgical Management of Hyperactive Dysfunction Syndrome by Microasterional Approach

Armando Morales, MD, Shery Lane Sanchez, MD & Richard Gonzalo Párraga, MD

Abstract- Background: Compression of multiples cranial nerves at the entry zone in the brainstem is called hyperactive dysfunction syndrome. Caused by the dolichoectasia basilar artery that compress V, VII-VIII and IX cranial nerves, in our patient it caused trigeminal neuralgia, hemifacial spasm and glossopharyngeal neuralgia, that its a very rare condition, probably less than 1% of rhizopathies published. There are at least 9 cases reported in the reviewed literature. This case would be the 10th reported case. This is the first case treated with an Microasterional approach with a backup video.

Case Description: In these case we are reporting a patient diagnosed with trigeminal neuralgia, hemifacial spasm and glossopharyngeal neuralgia, caused by the dolichoectasia basilar artery, caused by microvascular compression. In which case an Microasterional approach was performed. A microsurgical dissection was performed, separating the artery from the nerves, and interposing a non-absorbable sponge between the nerves and vessels. A bibliographic review was carried out for cases with hyperactive dysfunction syndrome with a microasterional approach. The surgical approach and technique is exemplified in a video.

Conclusion: The microasterional approach and microvascular decompression with a non-absorbable sponge is useful to treat hyperactive dysfunction syndromes, with good results, with a resolution of the symptoms in the immediate postoperative period.

Keywords: decompression surgery, hemifacial spasm, glossopharyngeal neuralgia, microasterional approach, trigeminal neuralgia.

Annotation
1) 00:00:00 Title
2) 00:08:00 Patient History
3) 00:25:14 Preoperative studies
4) 00:40:15 Park bench position
5) 00:45:15 Park bench position (medical illustration)
6) 00:51:05 Microasterional approach (medical illustration)
7) 00:56:24 Asterional Zone (medical illustration)
8) 01:02:03 Microasterional approach
9) 01:06:19 Microasterional approach and dural opening
10) 01:11:28 Microdissection of the neurovascular structures
11) 01:15:13 Microdissection of the neurovascular structures (medical illustration)
12) 01:27:17 Microdissection of the VII-VIII nerves
13) 01:38:06 Basilar dolichoectasia artery compressing the VII-VIII nerves (medical illustration)
14) 01:55:09 Microdissection to expose the V nerve
15) 02:26:00 Basilar dolichoectasia artery compressing the V nerve
16) 02:38:24 Placement of non-absorbable sponge in the neurovascular compression
17) 03:24:25 Placement of non-absorbable sponge in the neurovascular compression (medical illustration)
18) 03:31:21 Placement of non-absorbable sponge in the neurovascular compression at the VII-VIII nerves complex
19) 04:39:25 Microdissection to expose the IX-X-XI nerves complex
20) 04:53:02 Placement of non-absorbable sponge in the neurovascular compression at the IX-X-XI nerves complex
21) 05:30:03 Neurovascular compression solved by microvascular decompression technique (medical illustration)

Author α: Research Fellow of the Institute of Neurosurgery Bolivia (INEB), Cochabamba - Bolivia. e-mail: armandojmorales@gmail.com
Author σ: Medical Doctor of the Institute of Neurosurgery Bolivia (INEB), Cochabamba - Bolivia. e-mail: sherylane_1@hotmail.com
Corresponding Author ρ: Director of the Institute of Neurosurgery Bolivia (INEB), Cochabamba - Bolivia. e-mail: richardparraga@ineb.com.bo
References Références Referencias

15. Vanaclocha Vicente, Juan Manuel Herrera, Deborah Martinez-Gómez, Marlon Rivera-Paz, Cristina Calabuig-Bayo, LeyreVanaclocha. Is There a Safe and Effective Way to Treat Trigeminal Neuralgia Associated with Vertebrobasilar Dolichoectasia? Presentation of 8 Cases and Literature Review.
19. Zhong J, Zhu J, Li ST, Guan HX. Microvascular decompressions in patients with coexistent hemifacial spasm and trigeminal neuralgia. Neurosurgery 2011; 68: 916 20; discussion 920. OperNeurosurg. Declaration of patient consent The authors certify that they have obtained all appropriate patient consent. Author Contributions Primary surgeon: Richard Gonzalo Párraga. Assistant surgeon: Armando Morales, Shery Lane Sanchez. Medical illustration: Shery Lane Sanchez. Financial support and sponsorship Nil. Conflicts of interest There are no conflicts of interest.