

Sustained Relief of Central Pain after Stroke with Stereotactic Thalamotomy: A Case Secondary to Aneurysm Embolization.

WSSFN 2025 Interim Meeting. Abstract 0126.

Isis Franco Martin,¹ Igor Bagini Mateus,¹ Henrique Aguiar Lima,¹ Rafael Leão De Moraes,¹ Emanuele Pires Canela Dos Santos,² Bruna Dias Rocha,³ Paulo Luiz Da Costa Cruz,³ Paulo Niemeyer Soares Filho.³

¹ Universidade de Varzea Grande- Univag. Brasil.

² Universidade de São Paulo- Usp. Brasil.

³ Instituto Estadual do Cérebro Paulo Niemeyer. Brasil.

Corresponding author: Isis Franco Martin

email: isisfranco@outlook.com

How to Cite: Franco Martin I, Bagini Mateus I, Aguiar Lima H, Leão De Moraes R, Pires Canela Dos Santos E, Dias Rocha B, et al. Sustained Relief of Central Pain after Stroke with Stereotactic Thalamotomy: A Case Secondary to Aneurysm Embolization.: WSSFN 2025 Interim Meeting. Abstract 0126. NeuroTarget 2025;19(2)

Abstract

Introduction: Central neuropathic pain is a debilitating condition resulting from lesions in the central nervous system, such as strokes, trauma, or neurovascular procedures. Its management represents a major clinical challenge, as it often does not respond to conventional pharmacological treatment. In refractory cases, functional surgical interventions, such as stereotactic thalamotomy, have been used with promising results, providing symptomatic relief and improvement in quality of life.¹⁻³

Clinical description: Male, 55 years old, with a history of chronic headache since childhood, presented with progressive worsening over the past six months, accompanied by vomiting. Neurological examination revealed anisocoria with reactive pupils and mild left-sided dysmetria. CT angiography showed an aneurysm of the left anterior inferior cerebellar artery (AICA). Endovascular embolization of an arteriovenous fistula and the aneurysm with liquid embolic material was performed, achieving good pedicle occlusion. After the procedure, imaging demonstrated interruption of flow in the left AICA, resulting in an ischemic stroke, with left peripheral facial paralysis, painful dysesthesia in the right hemibody (face, arm, and leg), and gait ataxia. Pain was partially controlled with Gabapentin and Carbamazepine. Due to refractoriness, stereotactic thalamotomy targeting the left Centromedian (CM) and Ventral posterolateral (VPL) thalamic nuclei was performed without complications. Initially, pain persisted, but the patient was informed about the possibility of delayed response. Over time, Duloxetine was introduced, leading to progressive improvement. After one year,

there was significant relief of neuropathic pain. The patient currently remains on Gabapentin and Duloxetine, with occasional headaches and marked improvement in quality of life.

Discussion: The management of central neuropathic pain requires an individualized approach. Many patients are refractory to standard pharmacological therapy.² In such cases, functional neurosurgery, such as stereotactic thalamotomy targeting the CM and VPL nuclei, may be an effective alternative. Recent studies have shown favorable outcomes, with a low complication rate and sustained response.^{1,3}

Conclusions: In cases of refractory central neuropathic pain, stereotactic thalamotomy represents a viable option. Continuous follow-up and personalized treatment are essential to improve clinical outcomes and quality of life.

References

1. Raslan AM, McCartney S, Burchiel KJ. Management of central post-stroke pain: the role of motor cortex stimulation and other therapies. *Neurol Res.* 2022;44(1):5–12. doi:10.1080/01616412.2021.1943700
2. Attal N, Bouhassira D, Baron R. Diagnosis and assessment of neuropathic pain through questionnaires. *Lancet Neurol.* 2023;22(4):314–326. doi:10.1016/S1474-4422(23)00040-2
3. Kim YH, Lee JY, Kim J, et al. Long-term outcomes of stereotactic thalamotomy for central pain syndrome. *Stereotact Funct Neurosurg.* 2023;101(2):89–97. doi:10.1159/000530088