

2ND WORLD CONGRESS ON DERMATOLOGY, COSMETOLOGY AND AESTHETIC SURGERY

July 14-15, 2025 | Rome, Italy



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Temporary Gasserian Ganglion Stimulation Utilizing SNM Electrode in Subacute Herpetic Trigeminal Neuralgia

Gasserian ganglion stimulation (GGS) is a neuromodulation technique widely used in the treatment of postherpetic trigeminal neuralgia. While most clinical applications have focused on permanent implantation, this case study explores the effectiveness of temporary GGS in a 70-year-old woman with subacute herpetic trigeminal neuralgia. The patient underwent temporary GGS for 14 days using a sacral neuromodulation (SNM) quadripolar-tined lead. CT-guided percutaneous foramen ovale puncture and SNM electrode implantation were conducted during surgery. The patient's pain was rated as 9/10 on the visual analog scale (VAS) before treatment. Psychological assessments including the Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and the SF-12 Health Survey were also conducted. After 14 days, pain decreased to 1/10 on the VAS and improved to 4/10 at 12-month follow-up. Anxiety scores improved from 58 to 35, and depression scores from 62 to 40. SF-12 PCS increased from 33.9 to 47.0, and MCS from 27.4 to 41.9. The electrode remained stable in position, as confirmed by CT reconstruction. The application of an SNM electrode may reduce the risk of lead dislocation, a common complication in GGS procedures. Temporary GGS, in combination with reduced doses of pregabalin, may offer a promising and minimally invasive solution for refractory trigeminal pain.

Keywords: neuromodulation, trigeminal neuralgia, Gasserian ganglion, SNM, pain relief, electrode stability

Biography

Dr. Jiejie Niu is a resident physician specializing in interventional pain management. His clinical and research interests include neuromodulation techniques for cranial nerve pain, especially Gasserian ganglion stimulation. He has participated in multiple clinical studies aiming to improve patient outcomes in trigeminal neuralgia using innovative electrode approaches.