

CT-guided thermal ablation of the Gasserian Ganglion in a patient with trigeminal neuralgia

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Patient description

55-year-old male.

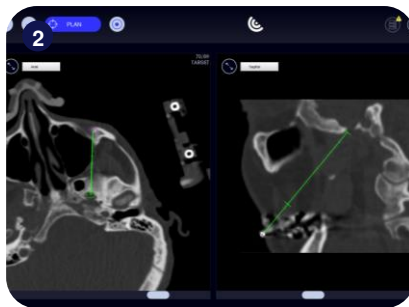
Progressive multiple sclerosis (initial diagnosis: 01/2005) and trigeminal neuralgia in the distribution of the left maxillary nerve.

Key Takeaways

Micromate™ assisted the clinical team in accurately positioning the needle in the Gasserian Ganglion. Typically, this procedure requires multiple needle adjustments, but Micromate™, only one minor correction was necessary. The subsequent stimulation was immediately successful.

Percutaneous thermal ablation of the Gasserian Ganglion is a standard treatment for patients with drug-resistant trigeminal neuralgia and is the preferred minimally-invasive approach for those with multiple sclerosis. Typically, the needle is placed under fluoroscopic guidance while the patient is awake. However, this procedure often requires several needle repositionings to successfully cannulate the foramen ovale, which measures approximately 3 to 7 mm at the skull base. To address this challenge, the team decided to use the Micromate™ robot for this complex intervention. Immediately following the procedure, the patient was pain-free.

Micromate™ was initially positioned near the entry point. After planning and alignment, the needle was advanced, followed by a control scan. A minor needle adjustment was necessary, and after the second control scan, the needle was in the correct position. After successful stimulation thermal ablation was performed without complications. The patient was pain-free immediately post-intervention and was discharged on the first post-op day.



1) Identification of the most suitable approach after CT image acquisition; 2) Trajectory planning through the foramen ovale in the skull to reach the Gasserian Ganglion; 3) Gross positioning of the Micromate™ targeting platform; 4) Needle placement according to the defined trajectory in the awake state; 5) Following a control scan and stimulation in the awake patient radiofrequency ablation was performed under short-time ketamine-induced anesthesia.