

Trigeminal ganglion block indications and methods

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Trigeminal neuralgia is a painful condition involving the face. It is the most frequently diagnosed form of facial pain, with a prevalence of 4 per 100,000 in the general population.

The first-line treatment remains anticonvulsant medical therapy.

Patients who fail medical management due to persistent pain or unacceptable side effects have interventional options.

Percutaneous approaches to the trigeminal nerve usually involve needle localization of the Gasserian ganglion through the foramen ovale.

Specific approaches may vary, but in general, variations of the Hartel percutaneous route are used, where a rhizotomy needle is inserted and advanced via fluoroscopic guidance toward the intersection point of the medial canthus and approximately 3 cm anterior to the internal auditory meatus. On the lateral view, the needle should be pointed toward the petrous bone and clivus and should be around 10 mm posterior to the dorsum sellae. Care must be taken to avoid the oral cavity and injury to adjacent vascular structures such as the internal carotid artery and jugular vein.

As the needle passes through the foramen ovale, tactile feedback may be noted as a give or loss of resistance. There may also be a reflexive jaw jerk, which occurs due to irritation of motor branches of the trigeminal nerve. In some cases, entering Meckel's cave may result in CSF flowing through the needle when the stylet is withdrawn. The position of the needle may be confirmed with contrast or air injection under live fluoroscopy.

By percutaneous approaches under the fluoroscopy guide, we can do the balloon micro-compression, Percutaneous chemodenervation, Radiofrequency Ablation, and Combined Glycerol and Radiofrequency Ablation. These methods are so effective with neglectable side effects.