Recurrent pain after percutaneous radiofrequency trigeminal rhizotomy

Higher temperatures may be necessary to achieve pain relief in some patients given the progressive nature of the facial pain, but are not associated with longer duration of pain relief in patients who have recurrent pain. Modulation of the ablation duration does not seem to affect the short-term or long-term outcomes ¹⁾.

There are high recurrence rate and technical difficulties in certain patients with foramen ovale (FO) anatomical variations. In a study, Ding et al., assessed the feasibility of accessing the Gasserian ganglion through the FO from a mandibular angle under computed tomography (CT) and neuronavigation guidance. A total of 108 patients with TN were randomly divided into 2 groups (Group G and Group H) using a random number table. In Group H, Hartel anterior approach was used to puncture the FO; whereas in Group G, a percutaneous puncture through a mandibular angle was used to reach the FO. In both groups, procedures were guided by CT imaging and neuronavigation. The success rates, therapeutic effects, complications, and recurrence rates of the 2 groups were compared. The puncture success rates in Group H and Group G were 52/54 (96.30%) and 49/54 (90.74%), respectively (P=0.24). The 2 procedural failures in Group H were rescued by using submandibular trajectory, and the 5 failures in Group G were successfully reapproached by Hartel method. Therapeutic effects as measured by Barrow Neurological Institute (BNI) pain scale (P=0.03) and quality of life (QOL) scores (P=0.04) were significantly better in Group G than those in Group H at 36 months posttreatment. Hematoma developed in 1/54 (1.85%) cases in Group H, and no cases of hematoma were observed in Group G (P=0.33). In Group H, RFT resulted in injury to the unintended trigeminal nerve branches and motor fibers in 27/52 (51.92%) cases; in Group G, it resulted in the same type of injury in 7/49 cases (14.29%) (P<0.01). In Group H, the 24- and 36-month recurrence rates were 12/51 (23.53%) and 20/51 (39.22%), respectively; in Group G, these recurrence rates were 7/49 (12.24%) and 9/49 (16.33%, P=0.03), respectively.CT- and neuronavigation-guided puncture from a mandibular angle through the FO into the Gasserian ganglion can be safely and effectively used to deliver RFT for the treatment of pTN. This method may represent a viable option to treat TN in addition to Hartel approach²⁾.

1)

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