Combined pulsed and thermal radiofrequency versus thermal radiofrequency alone in the treatment of recurrent trigeminal neuralgia after microvascular decompression: A double blinded comparative study

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Abstract:

Abstract Background: Recurrent trigeminal neuralgia (RTN) is a common clinical problem and pain recurs in many patients after microvascular decompression (MVD). We evaluated the effect of adding pulsed radiofrequency to radiofrequency thermocoagulation at 60°C compared to radiofrequency thermocoagulation at 70°C alone in the treatment of recurrent trigeminal neuralgia after microvascular decompression. Methods: 40 patients with recurrent trigeminal neuralgia after microvascular decompression were randomly divided into two equal groups. Group A: received prolonged duration of pulsed radiofrequency followed by less destructive thermocoagulation, while group B: received sole thermocoagulation. Then patients followed up for 2 years to evaluate the success rate by the Barrow Neurological Institute Pain Intensity (BNI) Scale, complications, and the need to medical treatment. Results: The success rate was 100% in both groups at discharge (BNI .05). In group A 88.9% of patients stopped tegretol treatment after the procedure compared to 84.2% in group B (p = .32). 88.9% compared to 89.5% in group A and B, respectively, did not use tricyclic antidepressant (p = .61). The overall complications in group A was 5.61%, while it was 36.8% in group B (p = .025). Conclusion: Combined pulsed and thermal radiofrequency can significantly reduce the incidence of the side effects/complications with similar success rate than using thermal radiofrequency alone in treatment of recurrent trigeminal neuralgia after microvascular decompression.

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