Introduction

Trigeminal neuralgia (TN) is a paroxysmal, recurrent, lancinating, or electric shock-like pain. The pain is usually localized to one or more of the three main division of the trigeminal nerve. Microvascular decompression (MVD) is frequently used in the treatment of typical TN, with recurrence occurs in about 10-30% of patients. Multiple factors have been implicated in the delayed recurrence of symptoms, such as new or additional vascular compression, formation of arachnoid adhesions or granuloma and dislodgement of the padding. There is no consensus as to the optimal treatment, some advocated repeat MVD, while others suggested less invasive procedures such as percutaneous radiofrequency ablation (RFA) or glycerol injection (GI). Also, the use of stereotactic radiosurgery (SRS) in recurrent TN was investigated as well. Furthermore, the literature is not clear as to the necessity for magnetic resonance imaging (MRI) of the brain after recurrence. We present a case of typical TN with multiple recurrences despite different interventions.

Case Presentation

This is a 50-year-old patient with a 5-year history of left V2 and V3 TN. He initially had an MVD with Teflon felt padding that eliminated his pain for a year. Then, pain recurred, and he underwent stereotactic radiosurgery, which did not help. He then had two percutaneous retrograde glycerol injections, the 1st one lasted a year, the 2nd one lasted for 6 months. We repeated his Brain MRI scan, and it showed a dramatic posterior kinking of the nerve with the padding apparently in place. We considered repeat glycerol injection versus explantation, and following a discussion with the patient, we decided that a re-exploration of the nerve was warranted given the MRI findings showing the nerve distortion. Intraoperatively we observed that the Teflon padding had become adherent to the petrous bone which caused tethering and deformation of the nerve. We did adhesiolysis with debulking of the padding, following which the distorted course of the nerve appeared straighter and more relaxed. The brainstem auditory evoked potentials remained stable. Postoperatively, the patient had immediate resolution of his pain with mild numbness in the V2/V3 distribution which he had before, with no facial weakness. On 12 months follow up, the patient remained pain-free.

Conclusion

Recurrence of TN after a successful initial MVD can be attributed to different factors. We suggest obtaining a new MRI when the neuralgia symptoms recur in delayed fashion. Also, the use of a more compact material for padding, like GoreTex in place of Teflon felt, may be less prone to cause tethering and deformation of the nerve.

References