Fully Endoscopic Microvascular Decompression (E-MVD) for TN, a safe and effective procedure

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Introduction

Traditionally, MVD for treating Trigeminal Neuralgia has been performed using a microscope. Endoscopic microvascular decompression (E-MVD) is a newly accepted variation of this procedure. The endoscope improves the field of vision, and facilitate an easier dissection and placement of Teflon. It provides the advantage of better visualizing structures within the cerebellopontine angle. In this study, we examined 60 patients who were treated for TN exclusively using an endoscope.

Methods

A retrospective study with a long term prospective telephone questionnaire for patients who have undergone E-MVD for TN. Patients were given the BPI-Facial three times throughout their treatment; preoperatively at baseline, a short term follow-up, and a long term follow-up. The BPI-Facial is an adapted version of the Brief Pain Inventory (BPI), created by senior author J.Y.K. Lee with seven questions that pertain to specific facial interference.

The Brief Pain Inventory-Facial (BPI-F) consists of:

- 0-10 Numerical Rating Scale for Pain Severity
- 0-10 General Interference Scale
- 0-10 Facial-Specific Interference Scale

Facial Specific Interferences Include:

- Eating a meal
- Touching your face
- Brushing or flossing your teeth
- Laughing or smiling
- Talking
- Opening your mouth widely
- Eating hard foods like apples

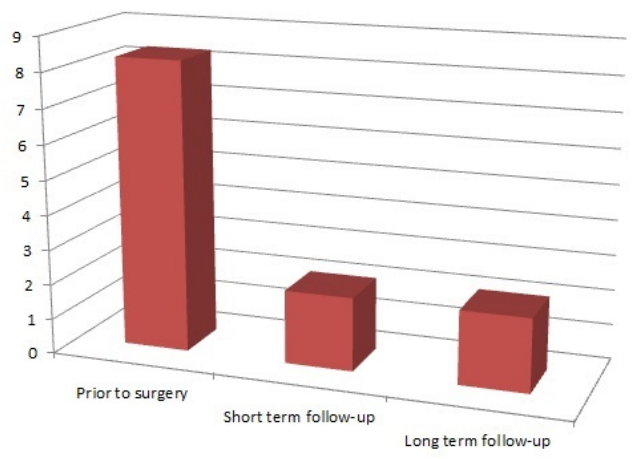
Results

60 patients who received E-MVD were reviewed, 42 females (68%) and 20 males (32%). Average age for males treated was 63.3 years old, 57.3 for females. 56 patients had Type 1 TN. 35 (58%) had right sided TN, while 25 (42%) had left sided TN. Neurolysis was performed in 15 of the 60 (25%). The most common compressions seen were SCA with 19 patients (32%), venous compression with 12 (20%), 10 had an unnamed artery compression, and 10 had a combination of the SCA and venous compression simultaneously. The rest were different combinations of the above. The mean "worst imaginable pain" prior to surgery was 8.3. Upon short term follow-up the average was 2.1, and a long term mean of 2.1. 32 patients reported zero pain during follow-up. One patient required a reoperation for a CSF leak.

Conclusions

E-MVD is a safe and effective treatment for TN. Postoperative outcomes produced significantly reduced and long-lasting facial pain. The majority of patients have reported complete facial pain relief.

Figure 1

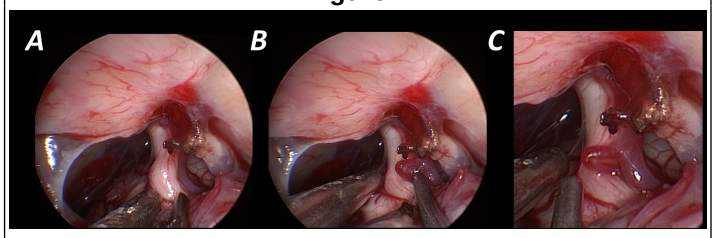


Demonstates "pain at its worst" prior to surgery, short term follow-up and long term follow-up.

Learning Objectives

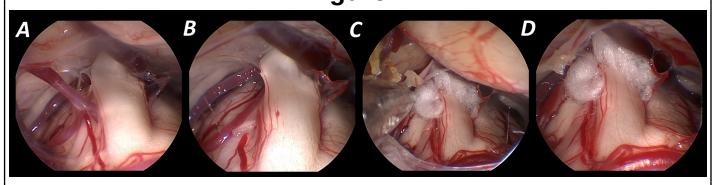
To understand that E-MVD provides a safe, effective, and long-lasting treatment option for patients with TN.

Figure 1



Left-sided approach demonstrating superior cerebellar artery (SCA) compression of trigeminal nerve and illustrates SCA loop which was compressing the rostral side of the nerve, which was dissected out and lifted off the nerve. A Teflon pledget was then placed in between the SCA loops and the nerve (not shown).

Figure 2



Demonstrates a right-sided approach with compression of the trigeminal nerve by both a small superior cerebellar artery (SCA) branch and also by a vein. Both vein and artery were mobilized and Teflon pledgets were placed in between the vein and artery and the trigeminal nerve.

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