Secondary trigeminal neuralgia (TN) accounts for approximately 2% of cases of TN. Arteriovenous malformations (AVMs) are known to be a cause. We describe a unique case in which TN was caused by compression from dilated red veins due to venous reflux from a contralateral cerebellar AVM.

For 2 years this 49-year-old woman had suffered from right-sided TN in the V2 territory with a trigger zone located at the right upper jaw. Thin-slice spoiled gradient-recalled acquisition (SPGR) magnetic resonance (MR) imaging demonstrated some vessels in the vicinity of the right trigeminal root entry zone (Fig. 1). Angiography demonstrated a left cerebellar AVM and prominent venous reflux. Gamma knife radiosurgery was performed targeting the nidus of the AVM. Afterward, MR images demonstrated some reduction in the volume of the nidus, but the woman’s neuralgia gradually increased in intensity 1 year after radiosurgery. The patient underwent microvascular decompression (MVD) of the right trigeminal nerve. The nerve was held between two red veins, the right lateral and medial pontomesencephalic veins, which were dilated by reflux from the AVM (Fig. 2 upper and center panels). The nerve was shaped like a ribbon and distorted as it coursed over the second red vein. During surgery the root entry zone was released and Teflon felt was interposed (Fig. 2 lower panels). The patient was free from neuralgia without any medication at the last follow-up examination performed 1 year after MVD, and MR imaging demonstrated further obliteration of the nidus.

The patient’s neuralgia was more similar to typical neuralgia due to arterial compression than to that caused by venous compression, possibly because the offending vessels were arterialized veins due to reflux from an AVM.

References


