

RADIOLOGICAL EVALUATION OF NEUROVASCULAR CONFLICT IN TRIGEMINAL NEURALGIA PATIENTS WITH HIGH-RESOLUTION MRI: SMALL CASE SERIES

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Objectives. Trigeminal neuralgia is a condition characterized by neuropathic pain that occurs in the sensory supply region of the trigeminal nerve. The common etiology of trigeminal neuralgia is vascular compression on the trigeminal nerve root, commonly known as neurovascular conflict (NVC). Although trigeminal neuralgia is a clinical diagnosis, radiological examination, preferably MRI, is used for further evaluation of structural etiology and classification.

Patient A: a 77-year-old male, diagnosed with trigeminal neuralgia, presenting with severe electric-like pain. Pharmacotherapy provided no relief. Primary MRI scan had no specific signs of NVC. Gasserian ganglion block was performed after which symptoms decreased for 6 months. Repeated blockade was performed with no significant clinical effect. A second MRI scan, including additional high-resolution sequences, showed a vessel near the proximal part of the left trigeminal nerve. A retrosigmoid craniotomy and microvascular decompression was performed. NVC was confirmed during surgery.

Patient B: a 58-year-old female, diagnosed with trigeminal neuralgia, presenting with severe shock-like pain. Carbamazepine treatment was effective, with effectiveness decreasing over time. On primary MRI there were no signs of NVC. Second MRI scan with additional sequences did not prove or exclude the diagnosis of NVC. Because of persistent symptoms a retrosigmoid craniotomy and microvascular decompression were performed. NVC was confirmed during surgery.

Cases of 2 patients diagnosed with trigeminal neuralgia and severe facial pain for more than 5 years with ineffective pharmacotherapy. Primary MRI scans without specific signs of NVC. Radiological evidence of NVC was found on additional high-resolution MRI scans. During neurosurgery, NVC was confirmed. The procedure was successful in both patients.

Conclusions. The most precise implements available for detection of NVC are high-resolution, T2W MRI, 3D MRA sequences. Systemic approach of evaluation and application of recommended criteria is a way to increase diagnostic accuracy of NVC.