Teaching NeuroImages: Amlodipine-responsive trigeminal neuralgia

An alibi for vascular compression theory

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Figure 1 Cranial MRI shows vascular compression of left medulla and trigeminal nerve root

Axial images of fast imaging employing steady-state acquisition sequence show left vertebral artery (white arrow) abutting anterolateral medulla (A, B). Magnetic resonance angiogram shows left vertebral artery (white arrow) taking a narrower course compared to right vertebral artery (red arrow) is seen abutting left trigeminal nerve root (white arrow) (D-F). Another vascular loop is seen abutting the distal part of left trigeminal nerve root (curved white arrow) (E).

A 55-year-old woman developed recurrent short-lasting shock-like pain involving her left lower face. Initiation of amlodipine for concurrently detected hypertension relieved her of pain besides normalizing her blood pressure. Interestingly, occasions of noncompliance with amlodipine brought her pain back. Her cranial MRI revealed tortuous blood vessels compressing the left rostro-antero-lateral medulla and left trigeminal nerve root (figure 1). Vascular compression of medulla is known to produce neurogenic hypertension¹ (figure e-1 at [Neurology.org](#)). Possibly, a decrease in vessel tortuosity² mediated by voltage-gated L-type calcium channels (antihypertensive effect) and an action on N-type channels (sympathetic modulation/antinociceptive effect) played a role in amlodipine's inadvertent efficacy (figure e-2).

AUTHOR CONTRIBUTIONS

Ravi Uniyal: acquisition of clinical and electronic data, conception and drafting of manuscript. Vimal K. Paliwal: drafting and revision of manuscript. Neeraj Kumar: analysis of clinical data, drafting of manuscript. Hardeep S. Malhotra: analysis of clinical and electronic data, drafting and revision of manuscript. Ravindra K. Garg: analysis of clinical data and drafting of manuscript. Zafar Neyaz: analysis of imaging, drafting of manuscript.

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DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org](#) for full disclosures.

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