

Vertebral artery loop formation causing severe cervical nerve root compression

Figure 1 Oblique sagittal T2 sequence through the right cervical neural foramina



Vertebral artery flow void within the right C3-C4 neural foramen inferiorly displaces the right C4 nerve root (arrow).

Figure 2 Axial 3-dimensional T2 sequence through the C3-C4 neural foramina



Vertebral artery loops within the C3-C4 neural foramina (arrows). C6 nerve roots (not shown) were also involved, likely explaining her arm pain symptoms, which improved with medical management.

A 35-year-old woman presented with 10 years of stabbing pain in her neck and upper back above her right scapula, sometimes radiating into both arms. Examination results were normal. Somatosensory evoked potentials showed significantly prolonged latency of the right C4 nerve root. Cervical spine MRI demonstrated tortuous vertebral arteries looping most notably into the C3-C4 neural foramina bilaterally, compressing the C4 nerve roots, right worse than left (figures 1 and 2).

Vertebral artery loop formation is an uncommon cause of cervicobrachial neuralgia caused by direct compression of the nerve root.¹ Surgical decompression is usually reserved for cases that fail conservative treatment.²

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