

**Unusual case of Vertebral Artery Contacted Cervical Nerve Root Presenting Radiculopathy**

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**Introduction**

Cervical radiculopathy is generally caused by spine disease such as cervical disc herniation and spinal stenosis, although vertebral artery is a rare cause of cervical radiculopathy. We report a patient presenting with radiculopathy caused by vertebral artery and treated by oral steroid.

**Case**

A 62-year-old male visited, presented with a 3-day history of left severe shoulder pain and fifth finger pain. At first, he was consulted for anesthesiology department and received C4/5 interlaminar steroid epidural injection and facet block, however symptom was not improved. On physical examination, motor function was intact although tingling sensation on C7 dermatome revealed. Range of motion of the left shoulder was limited, especially in the external rotation. In addition, Neer's test, Hawkins-Kennedy test and scarf test to be positive for left shoulder. Spurling sign was negative and cervical MRI revealed no definite compressive lesion. Ultrasonography revealed left subacromial-subdeltoid bursitis, then he received intraarticular steroid injection and suprascapular notch block. After a three-weeks of intervention, his shoulder pain was improved, however the treatment effect for fifth finger was insufficient. We performed nerve conduction study and the results of that suggested left C7 and C8 radiculopathy. (Table 1) Previous cervical MRI was not included axial image of below C6 level, additional MRI was performed. It revealed torsioned vertebral artery nearly contacted the left C7 nerve root. (Fig 1) We administrated oral steroid, after a two-weeks of administering steroids, the patient remained symptom-free.

**Discussion**

In this case, clinical presentation could be suspected as typical cervical radiculopathy. A few previous studies described the evidences of vertebral artery causes of cervical radiculopathy. We described first case of vertebral artery C7 nerve root in this case.

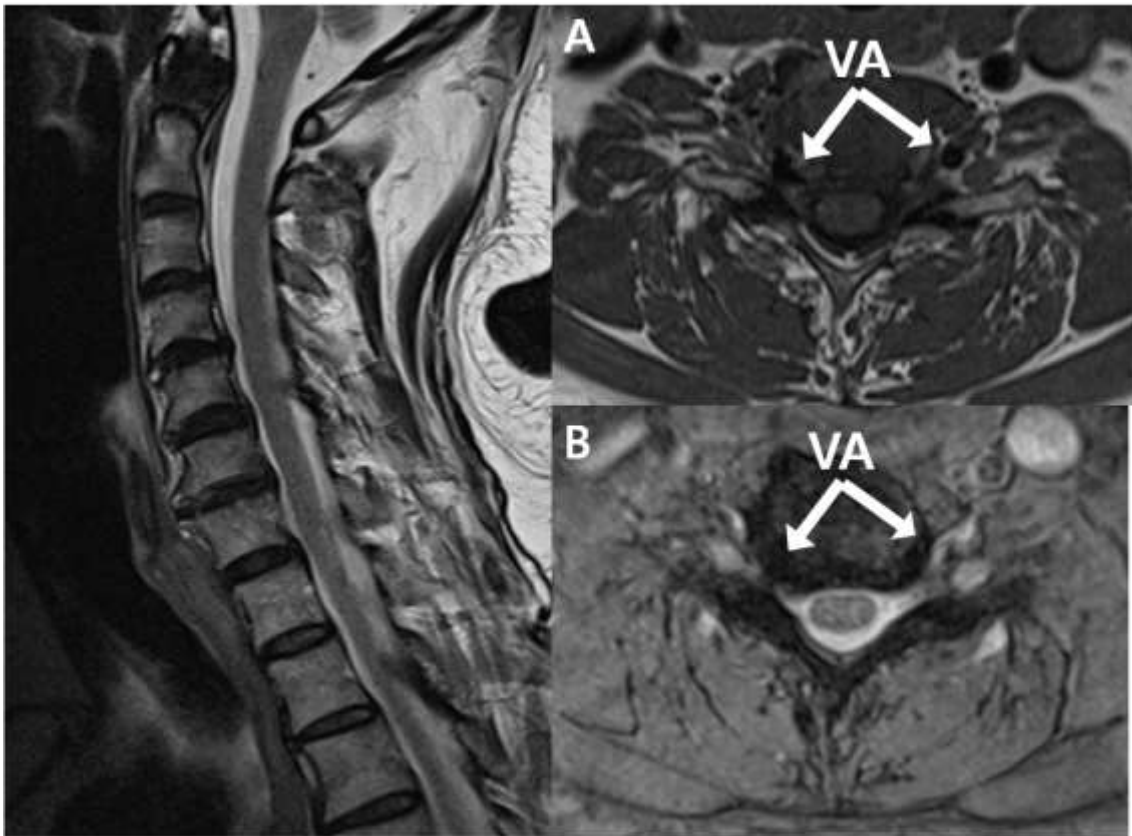


Fig 1. On the T2WI (A) and T2 contrast-enhanced (B) cervical MRI, left vertebral artery (VA) that were torsioned relative to the opposite side, reaching the left C7 nerve root.

Table 1. The results of peripheral nerve conduction studies.

Nerves (recording site)	Distal latency (m/sec)	Amplitude (mV)	Velocity (m/sec)
	Right/Left	Right/Left	Right/Left
Motor conduction			
Median (APB)	3.65 / 3.75	12.9 / 10.9	56.2 / 58.6
Ulnar (ADM)	2.40 / 2.60	10.9 / 9.0	56.2 / 58.1
Radial (EDC)	2.20 / 2.35	7.2 / 5.8	
Sensory conduction	Normal		
Needle EMG	ASA on left FCU, FDP, FDI, APB		