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Cervical Sympathetic Chain Block at C5 to Successfully Treat Reversible Cerebral Vasoconstriction Syndrome

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Introduction:

- The cervical sympathetic chain is responsible for sympathetic autonomic outflow
- We present a case in which this procedure, under ultrasound guidance, successfully treated reversible cerebral vasoconstriction syndrome (RCVS)

Materials and Methods

- Informed consent was obtained for submission of a case report

Case Report

- 40-year-old male presented with headaches which progressed to neck pain, blurry vision, facial droop, and weakness
- Workup demonstrated cerebral artery vasospasm and newly reduced ejection fraction
- Calcium channel blockers and milrinone were only partially beneficial in restoring cerebral blood flow

Cervical Sympathetic Chain Block at C5

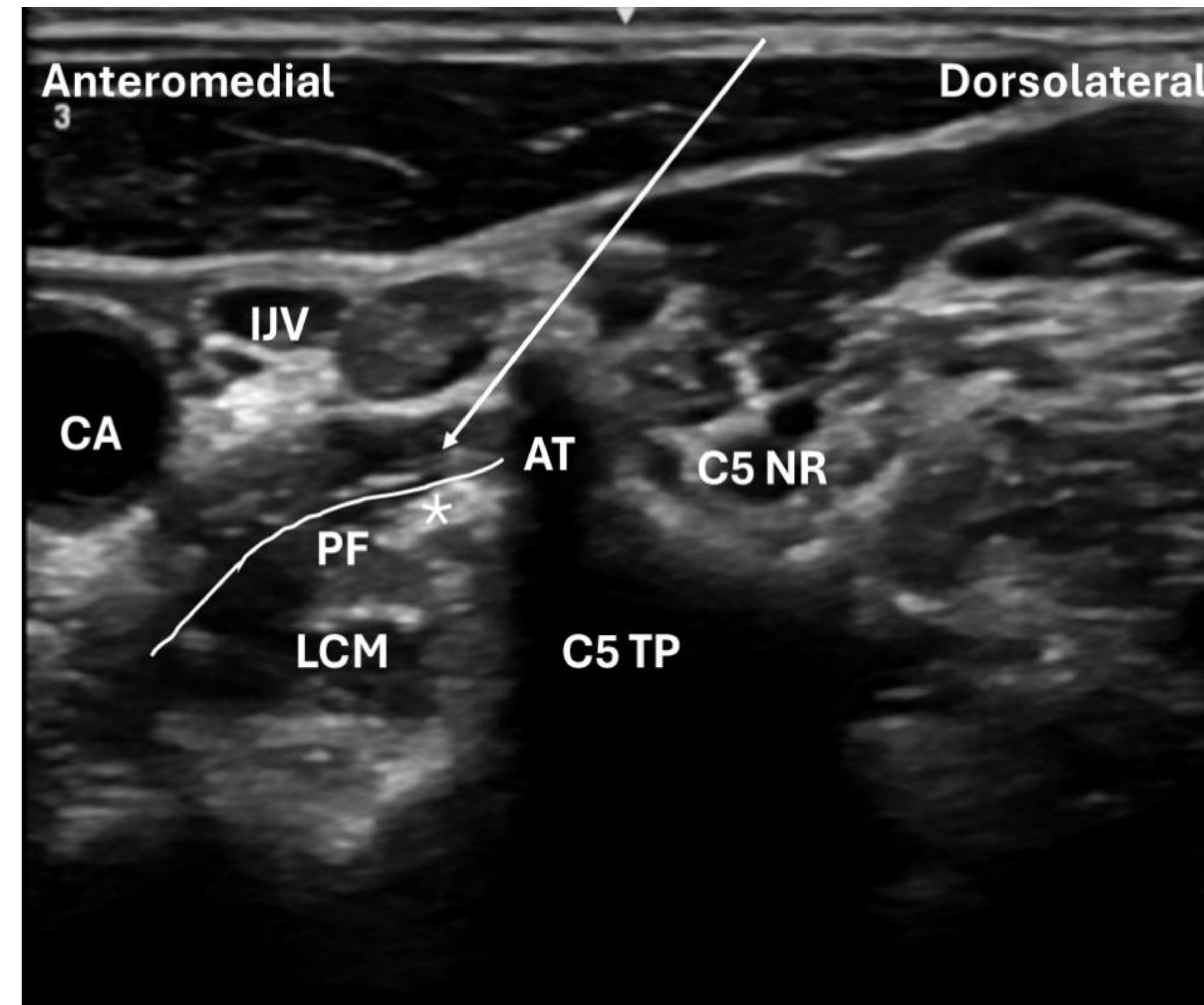
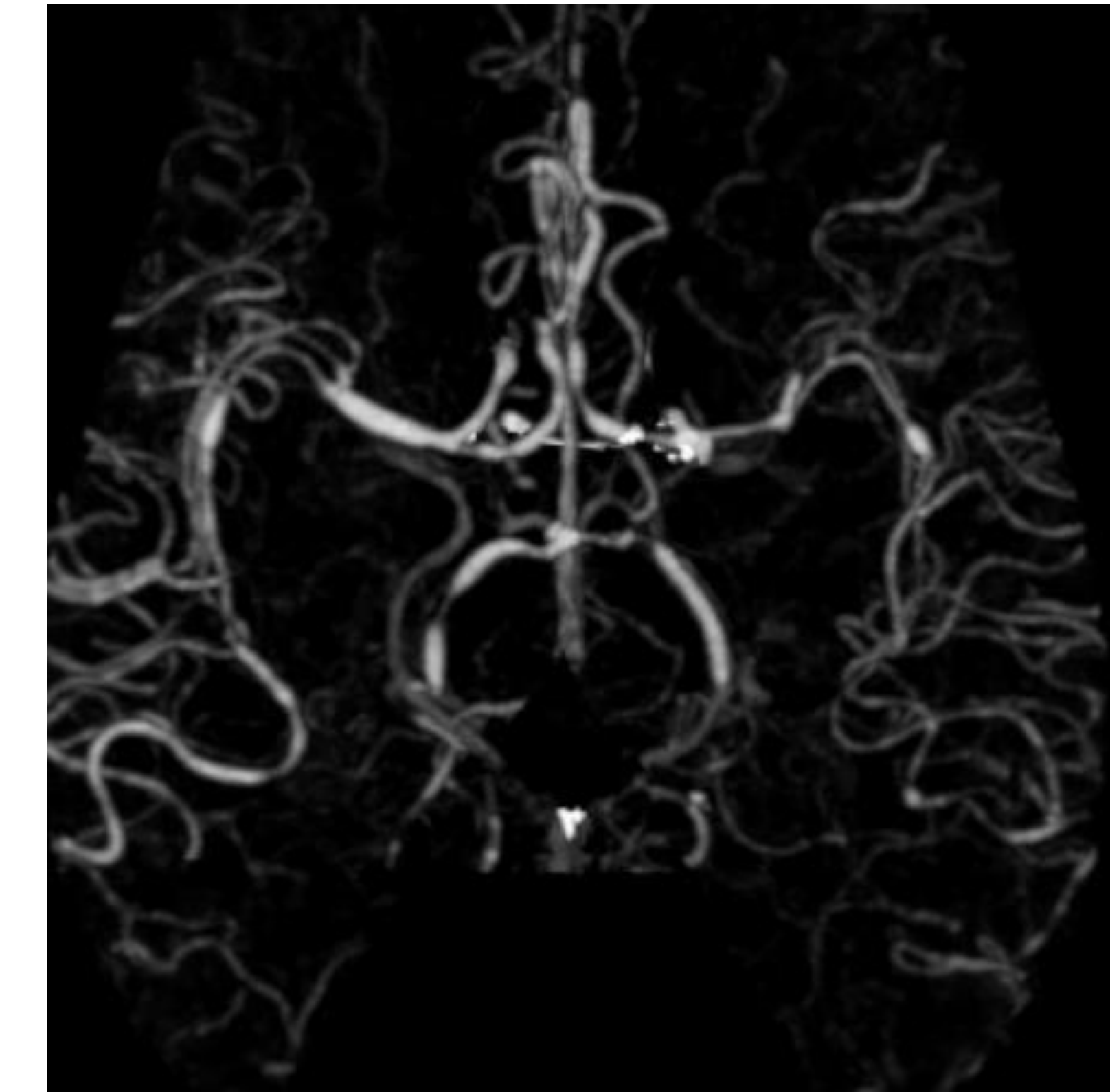


Figure 1: CA: Carotid Artery, IJV: Internal Jugular Vein, AT: Anterior Tubercle, C5 TP: C5 Transverse Process, C5 NR: C5 Nerve Root, LCM: Longus Colli Muscle, PF: Prevertebral Fascia, *: Cranial to the Location of Stellate Ganglion, Arrow: Simulated Path of Needle

Case Report (cont.)

- Acute pain team evaluated the patient for a stellate ganglion block
- Anomalous vertebral artery path at C6 prevented traditional administration
- Block placement at C5 as shown in Figure 1 resolved ipsilateral cerebral artery vasospasm for 24 hours as verified by transcranial doppler



Discussion

- There is growing evidence for treating RCVS via sympathetic blockade. Those occurring after subarachnoid hemorrhage have seen similar benefit in the literature
- Ultrasound guidance provides a safe, reproducible technique for block performance
- The role of regional anesthesia is ever expanding in tackling complex pathologies