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Paraganglioma Masquerading as Neurological Symptoms: A Rare Case Presentation

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Introduction: Paragangliomas (PG) are rare tumors of neural crest origin. We report an unusual case of a PG wherein the patient presented to the hospital with complaints of bilateral numbness, tingling, and intermittent difficulty in grasping objects. **Case presentation:** A 51-year-old female with a prior history of Guillain-Barre Syndrome and hypertension presented to the hospital due to bilateral numbness, tingling, and intermittent difficulty grasping objects in her hands for four weeks. At presentation, her vitals were stable, and her physical examination was positive, only for diminished sensation in her upper extremities. Lab work, including TSH, B12/Folic Acid/ANA, was unremarkable at presentation. CT head and MRI brain were negative for acute intracranial pathology. MRI of the cervical spine showed multilevel degenerative changes (C5-6) and a 1.9 cm soft tissue mass just above the left carotid bifurcation. CTA of the neck revealed a 2.7 x 1.6 x 1.7 cm enhancing mass at the left carotid bifurcation and a contralateral 5 x 3 mm lesion at the right carotid bifurcation. EMG/NCS was performed, which did not meet the diagnostic criteria for Acute Inflammatory Demyelinating Polyradiculoneuropathy (AIDP/GBS) or cervical radiculopathy. Biochemical workup with plasma metanephrine, 24-hour urine catecholamines/metanephrine/normetanephrine, and 24-hour vanillylmandelic acid was normal. She underwent resection of the left carotid body tumor. The histopathology was consistent with PG. Following the diagnosis, blood tests with PTH, calcium, and calcitonin were performed and were normal. The thyroid ultrasound did not show any thyroid nodules. The patient is scheduled to follow up with Endocrinology as an outpatient to

complete genetic testing. **Discussion:** PG of the head and neck are rare. PG are benign in most cases, but 10% are reported to be malignant. PG may occur sporadically or as inherited familial tumors. Classic tumor syndromes associated with PG include MEN 2A and 2B, von Hippel-Lindau disease, Neurofibromatosis type 1 (NF-1), and Carney-Stratakis dyad. Most cases are non-functional, and symptoms result from mass effects. A preoperative diagnosis usually involves biochemical and radiographic (CT/MRI/PET/MIBG) testing. Biochemical evaluation with measurement of urinary and/or plasma fractionated metanephrines and catecholamines is indicated for all PG, even if clinically non-functional. The definitive diagnosis is histopathological. Treatment options include surgical resection, radiation, and stereotactic radiosurgery.

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