A Rare Presentation of Peripheral Facial Nerve Palsy Secondary to Lateral Pontomedullary Infarction

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Introduction

Primary facial nerve palsy accounts for only 7% of cases and is a diagnosis of exclusion.
Lesions involving the pontomedullary region can present with peripheral facial nerve palsy. Although rare, peripheral Bell's palsy can be indicative of a pontine ischemic infarct.
This case report highlights the importance of further testing in cases of isolated peripheral facial nerve palsy. In particular, the need for early evaluation for pontine lesions that can mimic a solitary infranuclear palsy.
About 30% of patients with Bell's palsy have poor recovery from progressive or persistent facial disfigurement causing psychological difficulties.

Case Discussion

A 73-year-old male with a past medical history of diabetes mellitus type 1, hypertension, hyperlipidemia, coronary artery disease, severe aortic stenosis status post bioprosthetic aortic valve replacement.

He was presented with a five-day history of nausea, hematochezia, unsteady gait, and a three-day history of right-sided facial weakness.

On neurological examination, the patient was alert and oriented to person, place, and time. He was able to follow two-step commands. His speech was persistent facial disfigurement causing psychological difficulties.

Objective Assessment

His vital signs were significant for a blood pressure of 160/70 mmHg, pulse rate of 90 bpm, respiratory rate 18/min, and a body temperature of 36.3 °C. Serum laboratory findings showed elevated hemoglobin A1c 7.9 [normal<6%], other laboratory findings including serum electrolytes, serum creatinine, serum cholesterol, triglycerides, hemoglobin, platelets, and white blood cells were within normal limits.

His initial electrocardiograph showed a left anterior fascicular block in sinus rhythm. Echocardiography showed no evidence of thromboembolic cause for the stroke. Magnetic resonance imaging showed punctate infarction in the right dorso-lateral, pontomedullary region. Magnetic resonance angiography of the head showed a patent left posterior communicating artery and 4 mm aneurysm at the proximal aspect of the left anterior cerebral artery.

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The most common causes of the abrupt onset of unilateral facial weakness are stroke and Bell’s palsy. The first step in evaluation is determining between central versus peripheral causes of Bell’s palsy.

A central lesion in pons involving the facial nerve nucleus can paradoxically present as peripheral nerve palsy and could be a sign of stroke.

Further workup and imaging such as MRI may be indicated for timely diagnosis and management in:

a. Patients with multiple vascular risk factors
b. Progressive facial nerve palsy with other neurological signs.

Although rare, this can be an early indicator for future catastrophic stroke and warrants secondary stroke prevention protocol.

References: