Case Report

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Acute Isolated Unilateral Palatal Palsy in an Adolescent Girl: Case Report

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ABSTRACT

Although reported in children, acquired and acute-onset isolated unilateral palatal palsy is a clinically rare condition. It is typically caused by involvement of the pharyngeal branch of the vagus nerve, with presenting symptoms primarily including acute-onset hypernasal speech and ipsilateral nasal regurgitation of fluids. While the etiology is often considered idiopathic, several pathologies, such as infections, trauma, tumors, and brainstem lesions, must be excluded, as direct associations have been established in literatures. We report a case of a 13-year-old girl who developed acute-onset left sided isolated palatal palsy following mild rhinitis with non-conclusive neuroimaging and negative routine serology. Complete recovery was achieved within two weeks with a tapering course of oral corticosteroids. The patient was closely monitored for three months to exclude recurrence and the possibility of other underlying pathologies.

Keywords: palatal palsy, rhinolalia, nasal regurgitation, neuropraxia

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INTRODUCTION

Acquired isolated unilateral palatal paralysis is a rare clinical entity characterized by dysfunction of the pharyngeal branch of the vagus nerve, resulting in asymmetrical contraction of the soft palate and causing significant clinical symptoms. This condition predominantly occurs in males during infancy and childhood and is less frequently reported in adolescents.[1] Different etiologies such as infections, trauma, tumors, or brainstem lesions, have been proposed as contributing factors. However, the most common cause is considered idiopathic in nature.[2] The most plausible theory suggests ischemic damage to the affected nerve, leading to neuropraxia, which results in symptoms such as nasal regurgitation and rhinolalia aperta, or speech hypernasality.[3] While patients present with acute concerning symptoms, isolated unilateral palatal paralysis typically has a benign and self-limiting course with no long-term sequelae. In accordance with a hypothesized immunological basis, treatment with steroids has been shown to result in significant improvement.[4] Given its rarity, we present a case of acquired acute-onset unilateral palatal paralysis in a female adolescent, highlighting the clinical features and outcomes.

Case Report

A 13-year-old fully immunized girl presented to the outpatient department with complaints of sudden onset severe hypernasal speech and left nasal regurgitation of fluids during swallowing, occurring 12 hours prior to presentation. Symptoms were non-progressive and were preceded by mild prodromal symptoms in the form of rhinitis within the previous 24 hours, which was self-limiting on home remedies. A detailed systemic review revealed no evidence of other neurological or systemic involvement, including skin rashes, significant pyrexia, or other complaints suggestive of common causes typically attributed to palatopharyngeal palsy, such as ingestion of neurotoxic substances, recent trauma, or dental and other surgical interventions. A full head and neck physical examination revealed obvious isolated left palatal paralysis, with full deviation of the uvula to the right, intact gag reflexes, and bilateral vocal cord motility, with no tongue deviation, fasciculations, or atrophy confirming isolated unilateral lower motor neuron dysfunction of the pharyngeal branch of the left vagus nerve (Fig. 1). Routine biochemical and hematological laboratory tests, including CBC and differentials, ESR, and CRP were all unremarkable. Viral serology screening, including SARS-CoV-2 investigations, returned negative results. Chest radiography and brain MRI revealed no localized pathology (Fig. 2). Confirming the above findings with a literature review, the decision was made to initiate treatment with oral prednisolone at a dosage of 0.5 mg/kg/day for five days, tapered to 0.25 mg/kg/day for an additional five days, with frequent follow-up intervals. The first follow-up visit occurred five days later, during which significant improvement was noted in rhinolalia and nasal regurgitation, although the uvula remained mildly deviated to the right upon phonation.

By the second follow-up (10 days after onset, rhinolalia and nasal regurgitation had completely subsided and the uvula was centrally located upon phonation, with no residual weakness (Fig. 3). Steroid therapy was discontinued, and the patient was closely monitored monthly for three consecutive months, during which she remained asymptomatic.

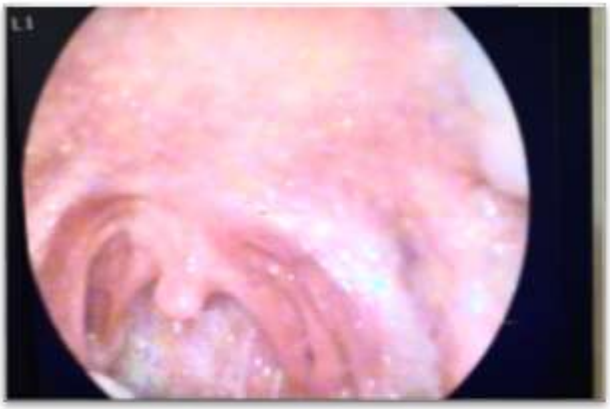

Figure 1: Left palatal palsy with right uvular deviation

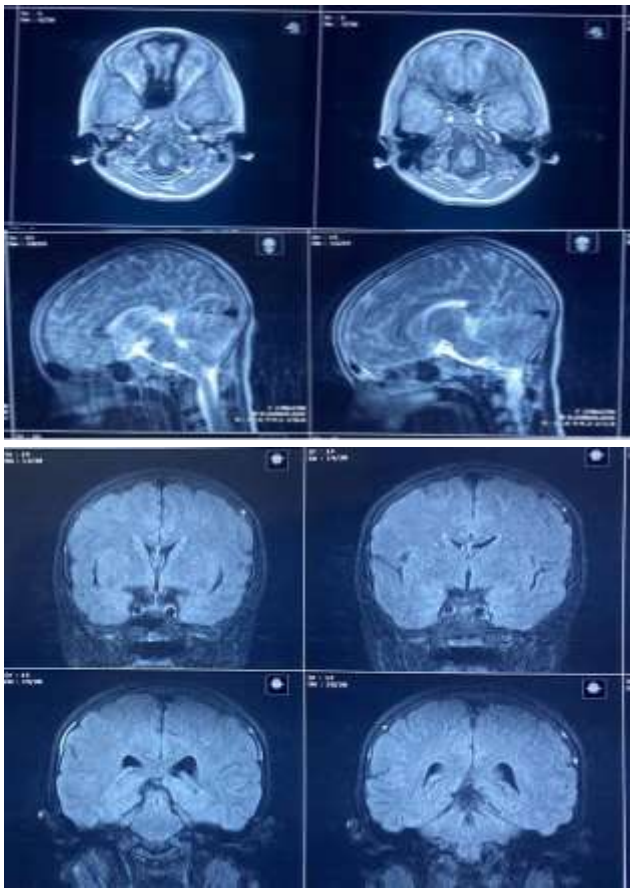

Figure 2: Normal brain MRI in axial and sagittal cuts

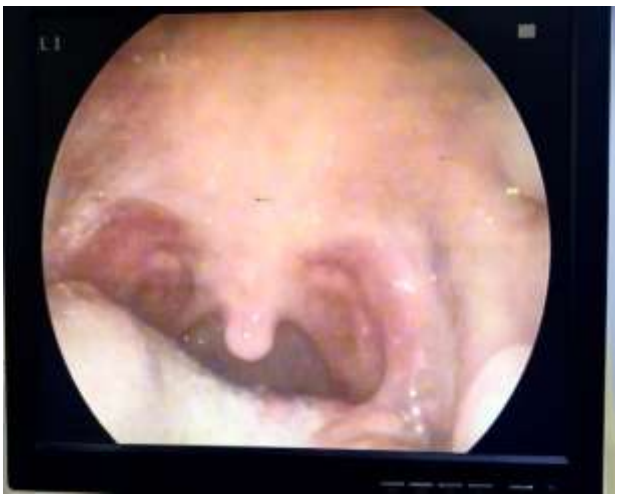

Figure 3: Symmetrical palate with centrally located uvula, 10 days after onset

DISCUSSION

Isolated unilateral palatal palsy is a rare clinical finding, particularly in adolescents, with only a few idiopathic cases documented.[5,6] Two mechanisms have been proposed regarding its etiopathogenesis. First, postinfectious cranial mononeuropathy may occur due to an acute viral infection, as the relative immaturity of neural tissue and an increased prevalence of respiratory tract infections may lead to heightened susceptibility in children. Second, ischemia resulting from a vascular insult to the roots of the 9th and 10th cranial nerves manifests as lower motor neuropathies, leading to palatopharyngeal paralysis.[1] Reported cases include postinfectious neuropraxia, demyelinating disorders, brainstem lesions, and trauma.[1,4,7] Our patient developed symptoms following a rhinitis episode, with normal neuroimaging and negative viral studies. Management in such cases varies; some advocate for observation alone, given the high likelihood of spontaneous recovery, while others report the benefits of corticosteroid therapy to expedite symptom resolution.[2,4,8] In our case, a short course of corticosteroids resulted in complete recovery within 10 days. Long-term follow-up over three months revealed no recurrence, solidifying the benign nature of the neuropathy. While the prognosis is generally excellent, early recognition and thorough diagnostic workup remain essential to exclude more serious etiologies and guide appropriate management.

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