Case Report

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A Rare Case of a Patient of Multiple Sclerosis Associated with Facial Palsy

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Abstract

Multiple sclerosis is a chronic autoimmune inflammatory disease characterized by axonal degeneration and demyelination of the central nervous system

Isolated facial nerve palsy is commonly seen with Bell's palsy. However, it can be associated with a central lesion at the level of the ipsilateral facial nucleus or the facial nerve at the pons. Isolated cranial neuropathies are rarely seen with multiple sclerosis. Isolated facial nerve palsy due to multiple sclerosis is a rare scenario and can often get misdiagnosed and treated as Bell's palsy.

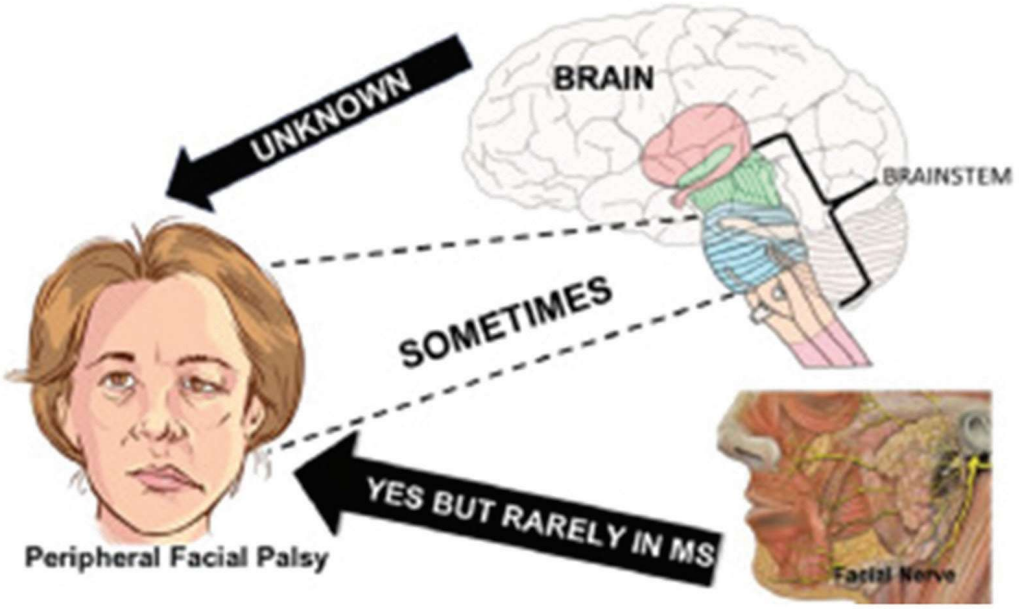
The patient being reported is a 30-year-old female who developed isolated facial nerve palsy, which was initially treated as Bell's palsy. However, she was found to be knowncase of multiple sclerosis

Keywords: Multiple sclerosis, Isolated idiopathic peripheral facial palsy, Bell's palsy, Seventh nerve palsy, Peripheral demyelinating disease.

Introduction

Multiple sclerosis (MS) is a chronic autoimmune inflammatory disease characterized by demyelination and axonal degeneration of the central nervous system. Approximately out of 2.5 million people who are affected by MS worldwide female-to-male ratio is 2:1. MS lesions are confined to the central nervous system and consequently not extending the nerve root entry zone. In peripheral seventh nerve palsy, the lesion of the nerve usually occurs at the level of the geniculate ganglion (located in the facial canal) and therefore outside the central nervous system. Peripheral facial palsy, however, can also result from a central lesion at the level of the ipsilateral facial nucleus or facial nerve at the pons

The facial nerve is primarily a motor nerve supplying the muscles of the facial expression and the stapedius muscle, but it contains also special



sensory fibers to the anterior two thirds of the tongue and parasympathetic fibers to the lacrimal and salivary glands. The cortical cerebral fibers of the facial nerve descend through the posterior limb of the internal capsule to the caudal pons, where they synapse with the facial nucleus. The corticobulbar projections responsible for the innervations of the upper face are bilateral, while those for the lower facial muscles are contra and unilateral. This particularity in neuronal connectivity explains why a unilateral supranuclear lesion, contrary to an infranuclear lesion, does not affect the muscles of the forehead and leads only to lower facial paralysis

Over the last three decades, a few cases on the association between peripheral demyelinating diseases and MS have been reported

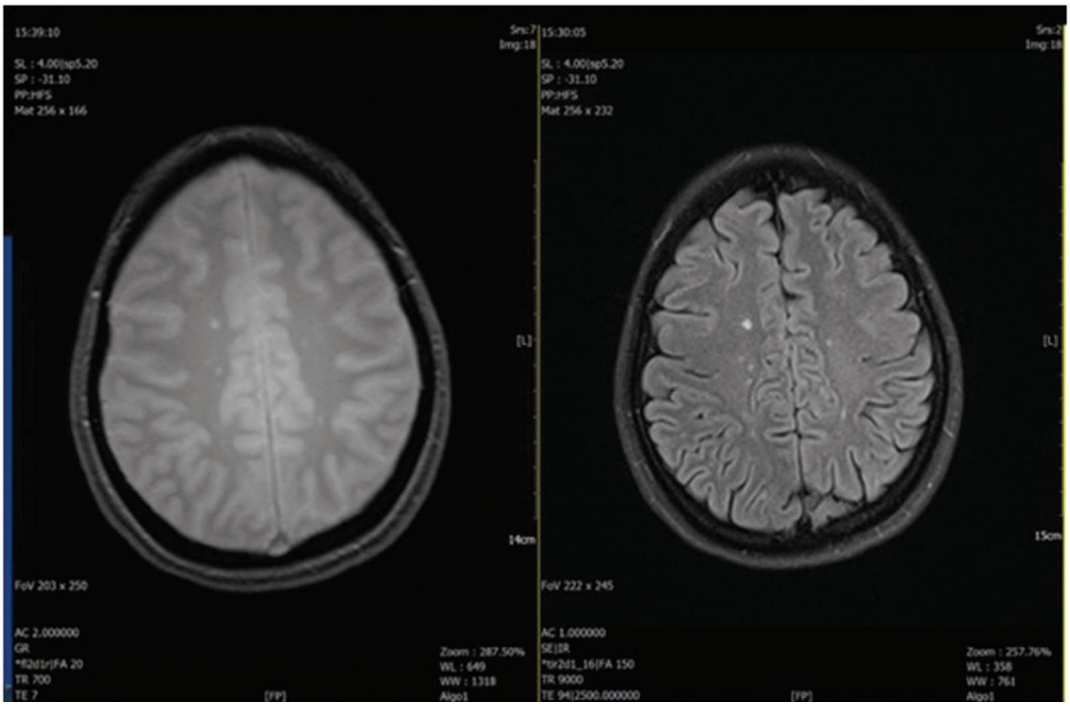


Fig. 5: MRI of a patient that has demyelinating lesions in the cortex in presence of a peripheral facial palsy.

Case Presentation

A 30 year old female presented to ER with c/o sudden RT sided facial weakness associated with twitching since last 1 hour

The Pt gave no h/o of paresthesia, loss of balance, blurred vision, bladder problems or lack of coordinationloc/vomiting loc/vomiting/ headache/vertigo/numbness and weakness in any limb Pt knowncase of multiple sclerosis

She was evaluated in emergency department andvitals: vitals were stable with pulse-100/min: bp-120/80mmhg; rbs-130mg/dl

Gcs-e4v5m6, no focal and neurological defcit present

Power-B/L Ul-5/5;

B/L Ll-5/5

B/L Plantars-Flexors

Mri Brain Revealed - Demyelinating Lesion In Cortex

The patient presented with white matter lesions in the brain. The patients did not show anyhyperintense signal in the facial nerve tract from the ponto-cerebellum angle (APC) to the stylomastoid foramen (indicative of a peripheral facial nerve involvement) in the temporal

The lesions were observed only in the cortex with no involvement of the brainstem Some patients (16.6%) had lesions both in the cortex and brainstem.

Discussion

Isolated idiopathic peripheral facial palsy (Bell's palsy) is considered to be a disease of the peripheral nervous system, while MS is defined as a disease of the central nervous system.[1,6] Common MS symptoms consist in visual disturbances, paresthesia, impaired coordination and paresis.[1] These symptoms can be associated with bladder and sexual dysfunction, Lhermitte'ssign (an electrical sensation along the spine by flexing the head) and ataxia. They tend to resolve spontaneously and to recur after months or even years.[1]

The classical presentation of Bell's palsy is an acute or subacute unilateral facial palsy that involves the lower and the upper half of the face (contrary to a central cause, where only the lower half of the face is affected). However, it is important to keep in mind that in rare cases, peripheral facial palsy, can also 'paradoxically' be due to a central lesion at the level of the ipsilateral facial nucleus or facial nerve at the pons.[6,12]

Conclusions

In MS patients, Peripheral facial palsy may be the first presentation of the disease and be misdiagnosed as BellsPalsy. Treatment with corticosteroids (without performing a brain MRI) may successfully contribute to Facial Palsy recovery regardless of its origin, but may interfere with MS diagnosis, masking the underlying pathology and possibly leading to misdiagnosis. This is particularly problematic in early MS as it may delay the MS diagnosis; in late MS, FP may be indicative of a reactivation of the disease with a new brain lesion. Clinicians should carefully approach the diagnosis of pFP and perform a brain and temporal bone MRI investigation before pursuing a pharmacological treatment given that pFP may be due to a central involvement rather than being a sign of peripheral facial nerve damage. The results are consistent with like ours, highlighted the importance of performing brain MRI to reduce the likelihood of misdiagnosis and delayed treatment of MS.

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