

# Moebius Syndrome

Arjimand Yaqoob, Waseem Dar, Adnan Raina, Amit Chandra, Zubair Khawaja, Immia Bukhari, Hilal Ganie, Maqbool Wani, Ravouf Asimi

Department of Neurology, Sheri Kashmir Institute of Medical Sciences, Jammu and Kashmir, India

Moebius syndrome presents as congenital, nonprogressive unilateral or bilateral facial and horizontal gaze palsy.<sup>[1,2]</sup> A 16-year-old male presented to our center with restricted eye movements with turning of head sideways to look at, inability to blow out the cheeks, and accumulation of food between teeth and cheeks since childhood. There was no history of drooling and he didn't report any recurrent childhood ear infections. On examination, patient had gaze-evoked nystagmus, horizontal gaze restriction with bilateral medial and lateral rectus palsy with preserved vertical movements. There was micrognathia, bilateral facial palsy (predominant lower face involvement), tongue atrophy, and tongue fasciculations. Intelligence quotient of the patient was normal. MRI of the brain revealed brainstem hypoplasia and straightening of the floor of the fourth ventricle [Figure 1].

The pathogenesis and etiology of the Moebius sequence appeared to be multifactorial. It is postulated to be due to

vascular disruption in the brain during prenatal development leading to hypoplasia or agenesis of the cranial nerve nuclei during fetal development. Sporadic mutations in *PLXND1* and *REV3L* genes have also been identified in a number of patients and confirmed to cause a constellation of findings consistent with Moebius syndrome when introduced in animal models. In rare cases, familial patterns have been reported. Most likely, Moebius syndrome is multifactorial, which means that both genetic and environmental factors play some causative role.

## Financial support and sponsorship

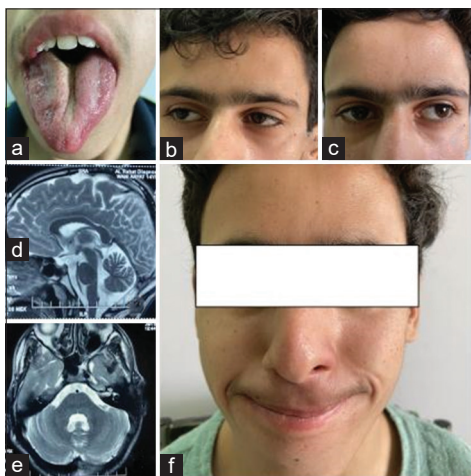
Nil.

## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Henderson JL. The congenital facial diplegia syndrome: Clinical features, pathology and aetiology: A review of sixty-one cases. *Brain* 1939;62:381-403.
2. Ouanounou S, Saigal G, Birchansky S. Moebius syndrome. *AJNR Am J Neuroradiol* 2005;26:430-2.



**Figure 1:** (a) Tongue atrophy. (b) Restriction of right lateral gaze (c) Restriction of left lateral gaze (d) Brainstem atrophy (e) Flattening of the floor of 4th Ventricle at the level of the inferior colliculus. (f) Inability to puff out cheeks suggestive of bilateral facial palsy

**Address for correspondence:** Dr. Waseem Dar,

Department of Neurology, Sheri Kashmir Institute of Medical Sciences,  
Jammu and Kashmir - 190 011, India.  
E-mail: drwaseemneuro@gmail.com

**Submitted:** 06-Mar-2021 **Revised:** 21-Mar-2021 **Accepted:** 31-Mar-2021

**Published:** 20-Aug-2021

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** WKHLRPMedknow\_reprints@wolterskluwer.com

**DOI:** 10.4103/aian.AIAN\_182\_21