

Editorial on Moebius Syndrome **Sophia Roberts***

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Editorial

Moebius syndrome is a rare neurological condition that primarily affects the muscles that control facial expression and eye movement. It is characterized by weakness or paralysis (palsy) of multiple cranial nerves, most often the 6th (abducens) and 7th (facial) nerves. The signs and symptoms of this condition are present from birth. If the 7th nerve is involved, the individual with Moebius syndrome is unable to smile, frown, pucker the lips, raise the eyebrows, or close the eyelids. If the 6th nerve is affected, the eye cannot turn outward past the midline [1-3].

Causes

The causes of Moebius syndrome are unknown, although the condition probably results from a combination of environmental and genetic factors. The disorder appears to be associated with changes in particular regions of chromosomes 3, 10, or 13 in some families. Many of the signs and symptoms of Moebius syndrome result from the absence or underdevelopment of cranial nerves VI and VII. Researchers estimate that the condition affects 1 in 50,000 to 1 in 500,000 newborns.

Symptoms

The abnormalities and severity of Moebius syndrome vary greatly from one person-to-another. Symptoms may include: Absence of blinking resulting in dry and irritated eyes, Lack of facial expression, for example the inability to smile or frown, Absence of lateral eye movement, because this movement is controlled by cranial nerve VI, Strabismus, Inability to suck, Difficulty in keeping the head back to swallow, Excessive drooling, The roof of the mouth may be high and arched with an abnormal opening (submucous cleft palate). Short or unusually shaped tongue, Micrognathia, Microstomia, Missing and misaligned teeth. Hearing loss (where cranial nerve VIII is affected), (hypotonia) and Bone abnormalities in the arms, legs, hands and feet.

Diagnosis

Making a diagnosis for a genetic or rare disease can often be challenging. A diagnosis of Moebius syndrome is based upon the characteristic signs/symptoms, a detailed patient history, and a thorough clinical evaluation.

Treatment

The treatment of Moebius syndrome is directed toward the

specific abnormalities in each individual. Some of the symptoms can be treated:

- Infants may struggle to feed due to being unable to suck, in this case special feeding tubes or bottles may be used to ensure sufficient nutrition is received.
- Physical, occupational and speech therapy can help to improve motor skills and coordination, and address speaking and eating difficulties.
- Eye care is very important. Surgeries such as eyelid loading are available which can help with eye closure. Sunglasses and wide-brimmed sunhats can help children with Moebius syndrome. Being unable to squint, their eyes are extremely sensitive to the light.
- Surgery can be performed which if successful can provide the ability to smile, but there will still be the absence of other facial expressions, such as the ability to frown.

References

- 1 <https://rarediseases.org/rare-diseases/moebius-syndrome/>
- 2 <https://medlineplus.gov/genetics/condition/moebius-syndrome/>
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