GRIN2B-related neurodevelopmental disorder

https://pubmed.ncbi.nlm.nih.gov/29851452/

Clinical characteristics:

GRIN2B

-related neurodevelopmental disorder is characterized by mild to profound developmental delay / intellectual disability (DD/ID) in all affected individuals. Muscle tone abnormalities (spasticity and/or hypotonia, occasionally associated with feeding difficulties), as well as epilepsy and autism spectrum disorder (ASD) / behavioral issues, are common. Other infantile- or childhood-onset findings include microcephaly; dystonic, dyskinetic, or choreiform movement disorder; and/or cortical visual impairment. Brain MRI reveals a malformation of cortical development in a minority of affected individuals. To date, fewer than 100 individuals with

GRIN2B

-related neurodevelopmental disorder have been reported.

Diagnosis/testing:

The diagnosis of a

GRIN2B

-related neurodevelopmental disorder is established in a proband by identification of either a heterozygous pathogenic variant or exon or whole-gene deletion of

GRIN2B

on molecular genetic testing.

Management:

Treatment of manifestations:

DD/ID, muscle tone abnormalities (spasticity, hypotonia, and feeding difficulties), epilepsy, ASD/behavioral issues, movement disorders, and/or cortical visual impairment are treated as per standard practice.

Surveillance:

Of clinical manifestations as clinically indicated.

Genetic counseling:

GRIN2B

-related neurodevelopmental disorder is inherited in an autosomal dominant manner. All probands reported to date with a

GRIN2B

-related neurodevelopmental disorder whose parents have undergone molecular genetic testing have the disorder as a result of a

de novo GRIN2B

pathogenic variant or deletion. If the proband represents a simplex case (i.e., the only affected family member) and the

GRIN2B

pathogenic variant found in the proband cannot be detected in the leukocyte DNA of either parent, the recurrence risk to sibs is estimated to be 1% because of the theoretic possibility of parental mosaicism. Given this risk, prenatal testing and preimplantation genetic testing may be considered.