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SCIENTIFIC LETTER

Lathosterolosis - A Rare Treatable Cause for Global Developmental Delay, Cataract, and Liver Dysfunction Masquerading as Galactosemia

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To the Editor: Lathosterolosis (OMIM#607330) is an autosomal recessive disorder of cholesterol biosynthesis. The first case was published in 2002 [1]. A 5.5-y-old girl born to consanguineous marriage presented with developmental delay and seizures (focal and generalized) from one month of age. The child was operated on for bilateral cataract. She attained walking with support and spoke 20 meaningful words. On examination, the occipitofrontal circumference (44 cm), weight (12.8 kg), and length (85 cm) all were less than the WHO -3 Z score. Flat bitemporal narrowing, nasal bridge, right eye exotropia, triangular face, normal vision, hearing, and hypotonia were noted. The complete hemogram was normal. The aspartate aminotransferase- 57.8 U/L (<32), and alanine aminotransferase- 77.5 U/L (<33) were increased with normal alkaline phosphatase (35 U/L) and gamma-glutamyl transferase (26 U/L). Ultrasound showed altered echotexture of the liver. MRI brain showed mild cortical atrophy and electroencephalogram showed multifocal epilepsy. The Erythrocyte GALT assay was normal, and IgG titers for rubella and cytomegalovirus (CMV) were negative. Whole exome sequencing showed a novel likely pathogenic missense change in *SC5D* NM_006918.5: c.13C>T: p.Leu5Phe and segregates with the condition in the family. The plasma sterol levels revealed high lathosterol- 54 µmol/L (normally <10), with normal 7-dehydrocholesterol, and total cholesterol suggestive of Lathosterolosis. The child was treated with simvastatin, 5 mg initially and the dose was increased to 10 mg daily over 6 wk later. Her lathosterol decreased to 15 µmol/L.

The differentials considered were galactosemia, TORCH infections, and Smith-Lemli-Opitz syndrome (SLOS). Clinically, galactosemia was considered as the child had developmental delay, cataracts, and liver dysfunction, however, the GALT enzyme assay was normal. Congenital rubella and CMV infection were ruled out based on normal vision, hearing, and negative antibody titers. The SLOS was differentiated by biochemical and genetic studies [2]. Lathosterolosis should be considered in any child with developmental delay, cataracts, seizures, and liver dysfunction.

Declarations

Conflict of Interest None.

References

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