Endocrine Features of Schaaf-Yang Syndrome

Case report

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Background.
Schaaf-Yang syndrome (SYS) is caused by mutation in the MAGEL2 gene (605283) on chromosome 15q11. SYS is an autosomal dominant multisystem disorder characterized by psychomotor and mental retardation, hypotension, and behavioral abnormalities. Additional signs joint contractures, feeding difficulties and various dysmorphic features. The severity of the disorder varies greatly: some patients may live with moderate disability. Individual lesions occur only if the mutation occurs in the paternal allele, since MAGEL2 is a gene imprinted on the mother. Endocrine changes include high levels of ghrelin, low GH-1 and GH deficiency

Here we report a case of SYS with another endocrine features.

The genetic diagnosis of Schaaf-Yang syndrome de novo is confirmed: MAGEL2 (NM_019066.4, sequencing) heterozygous variant c.1996dup p.(Gln666Profs*47)

Case report. Manifestation was at birth. A boy appeared to have disproportionately small hands and feet, dysmorphic facial features, esotropia and micrognathia. The patient was lethargic with no interest in feedings and poor suck/gag reflex. He was placed on feeds through a nasogastric tube. His laboratory workup was significant for hypoglycemia and hypocalcemia. On the first day of life, an MRI showed Grade I intraventricular hemorrhage bilaterally and a hemorrhage within the pituitary gland. EEG showed bitemporal sharps and complexes concerning for subclinical seizures. At the age of 3 months boy had feeding difficulties with poor suck, muscle hypotonia, vomiting, failure to thrive, spasticity, generalized seizures, encephalopathy, optic atrophy, pachygyria, bulbar syndrome, congenital malformations of the osteoarticular system, camptodactyly, abnormal urinary system and external genitalia, hypogonadism.

Parents are non-consanguineous and asymptomatic. They have no further affected child. Laboratory;

hypoglycemia:
serum glucose 2.3 – 2.9 mmol/l,
C-peptide 0.41 – 0.44 ng/ml (0.7 – 1.9).

HbA1c - 4.6%.
insulin – 7.02 mcU/ml (2.0 – 25.0).
TSH – 3.27 mLU/L,
FT4 – 16.67 pmol/L, FT3 – 4.77 pmol/L,

IGF-1/IGF-BP3, GF - normal,

PTH – 38.58 pg/ml (15-68).

screening for other endocrine dysfunctions was negative.

Blood calcium – 2.48,
ionized calcium – 1.21.

blood phosphorus – 1.84 mmol/l.

Total VitD (D2+D3) – 48.84 ng/ml (sufficient level 30 – 80).

Total protein – 63 g/l.

Ammoniak – 23.0 mmol/l (15-70).

Uric acid – increase.

IgA anti-tissue transglaminase antibodies – normal level.

Gliadin - 0.10 kU/L,

Kasein DPC – 0.31 kU/L.

Zink – 15.3 mcмол/L (9.8 – 16.8),

iron – 13.81 mcмоль/L.

Magnesium – 1.0 mmol/L.

Copper level – 11.3 mcмоль/l (10-22).

Folic acid – more than 45.4 mmol/L (10.4 – 42.4).

Conclusion: Given the seriousness of the results, we strive to describe the early abnormalities in the endocrine status of a child with the unique phenotypic features of the MAGEL2 mutation, which determine clinical suspicion and early intervention to manage its complex manifestation.

References:

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Conflict of Interest: The authors have no conflict of interest to declare.

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