Poster Number:P2-200 Abstract Serial Number:1072
The 58th Annual ESPE Meeting 19-21 September Vienna, Austria

Endocrine Features of Schaaf-Yang Syndrome Case report

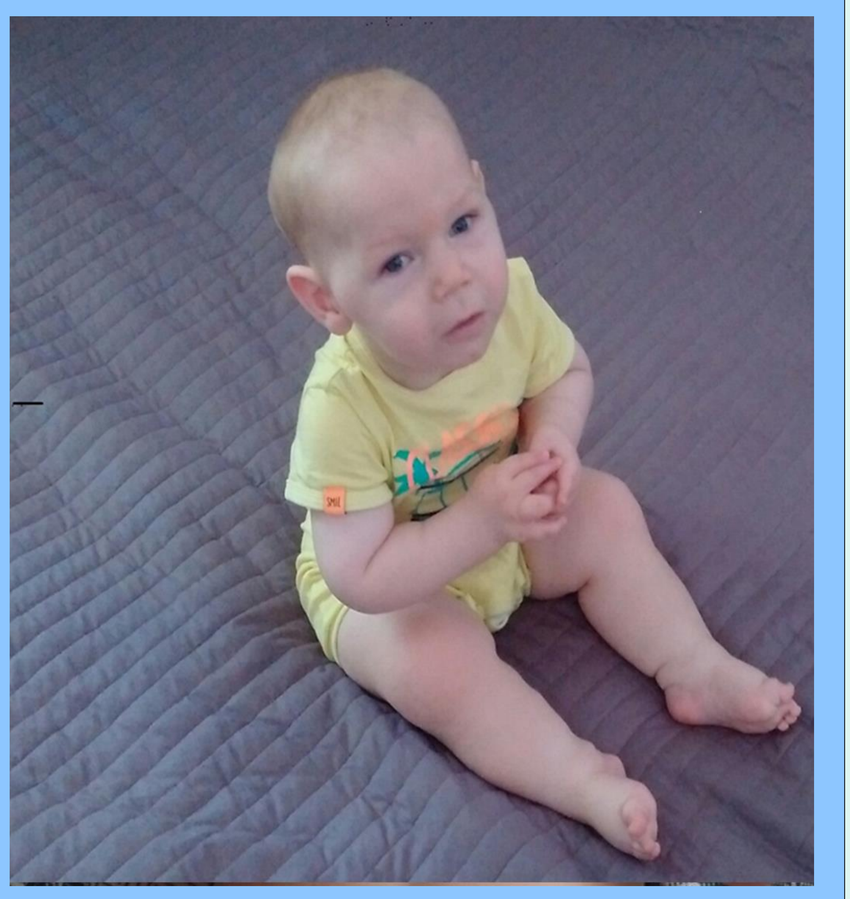
Olena Tolstikova, Serhii Aharkov
State Institution "Dnipropetrovsk Medical Academy of the Health Ministry of Ukraine", Dnipro, Ukraine

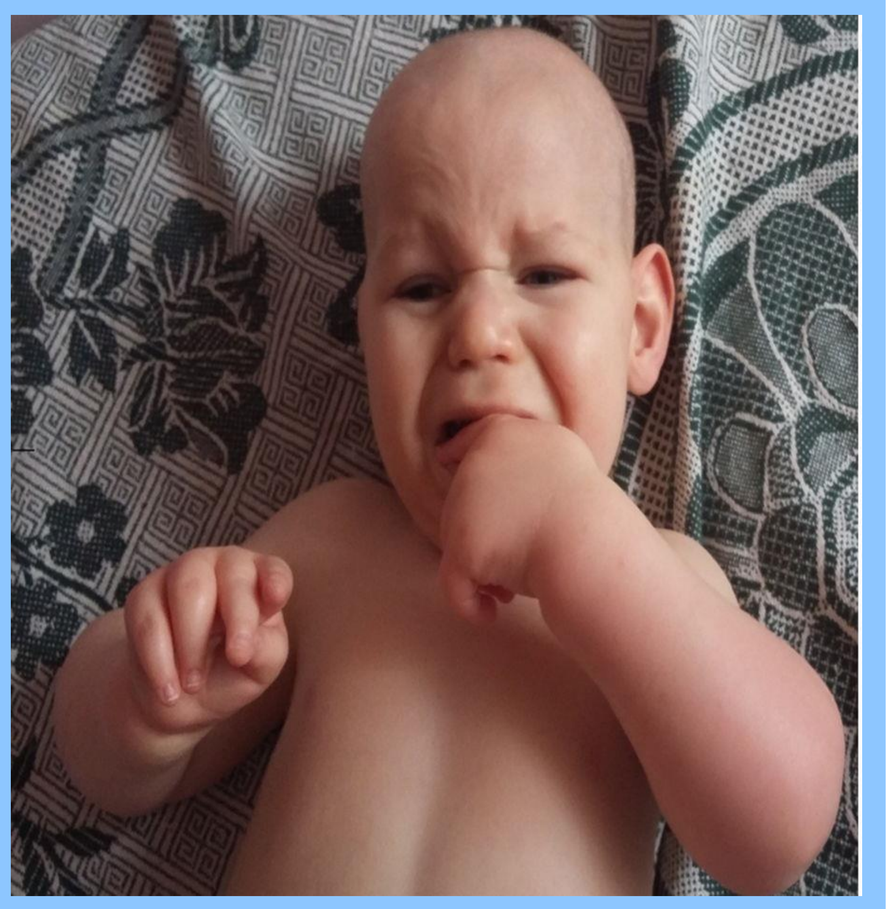
Background.

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 IGF-1 and GH deficiency**
Here we report a case of SYS with another endocrine features.

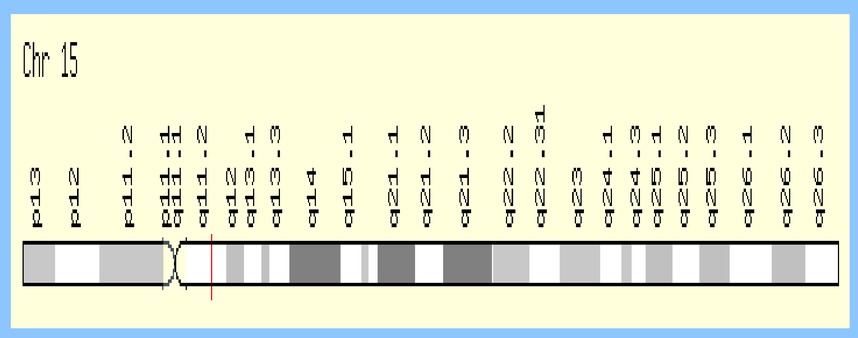
Case report. Manifestation was at birth. A boy appeared to have disproportionately small hands and feet, dysmorphic facial features, esotropia and micrognathia. The patient was lethargic with no interest in feedings and poor suck/gag reflex. He was placed on feeds through a nasogastric tube. His laboratory 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 mIU/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 transglutaminase antibodies – normal level,
gliadin - 0.10 kU/L,
kasein DPC – 0.31 kU/l.
Zink – 15.3 mcmol/L (9.8 – 16.8),
iron – 13.81 mcmol/L,
magnesium – 1.0 mmol/L,
copper level – 11.3 mcmol/l (10-22).
Folic acid – more than 45.4 nmol/L (10.4 – 42.4).





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



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:
1. Schaaf, C. P. *et al. Truncating mutations of MAGEL2 cause Prader-Willi phenotypes and autism*. *Nat. Genet.* **45**, 1405–1408 (2013).
2. Fountain, M. D. *et al. The phenotypic spectrum of Schaaf-Yang syndrome: 18 new affected individuals from 14 families*. *Genet. Med*. **19**, 45–52 (2017).

The authors thank the patient and his family for their wholehearted collaboration.
Conflict of Interest: The authors have no conflict of interest to declare.

Correspondence: elena.tol709@i.ua