



Successful transition to sulfonylurea therapy in an infant with neonatal diabetes, developmental delay, epilepsy (DEND-syndrome) due to F132L ABCC8 mutation



Y.V.Tikhonovich Y.V.1,2, E.E. Petryaikina 2, I.G.Ribkina2, I.V.Garyaeva2,
N.A. Zubkova1, A.N.Tiulpakov 1
1National Endocrinology Research Centre, Moscow, Russian Federation .
2Morozovskaya Children City Clinical Hospital of the Moscow Healthcare department.

INTRODUCTION: Cases of successful transition to sulfonylurea in DEND syndrome due to *ABCC8* mutations are very rare. Here we present a patient with DEND syndrome due to F132L *ABCC8* gene mutation, who was completely switched from insulin to glibenclamide. Interestingly, two previously reported patients with the identical mutation failed to respond to sulfonylurea.

CLINICAL CASE.

LFE HISTORY

- Full-term male from normal pregnancy and delivery
- Non-consanguineous parents
- Birthweight (g): 2830 (SDS -1.8)
- Apgar scores 8-9
- No family history of diabetes mellitus (DM)

DISEASE HISTORY

At 3 month of age:

- failure to thrive, irritability, frequent clonic-tonic generalized seizures
- severe hypotonia
- blood glucose level 18 mmol/L, ketonuria, pH 7.36
- C-peptide level undetectable
- Abdominal ultrasound: normally developed pancreas
- EEG examination: hypsarrhythmia
- MRI: no structural abnormalities



Neonatal diabetes mellitus. DEND-syndrome



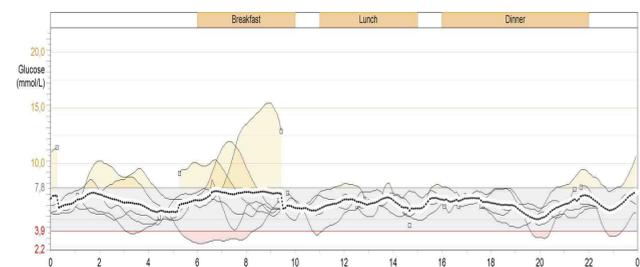
Continuous subcutaneous insulin pump therapy
(0.9-1.0 U/kg/day)

At 5 month of age:

- Poor glycemic control (HbA1c 10,3%)
- Ongoing seizures (phenobarbital, valproic acid, levetiracetam – unsuccessful)
- Severe developmental delay (did not hold his head, did not roll over)

De novo c.394T>C F132L mutation in exon 3 of *ABCC8* gene was detected

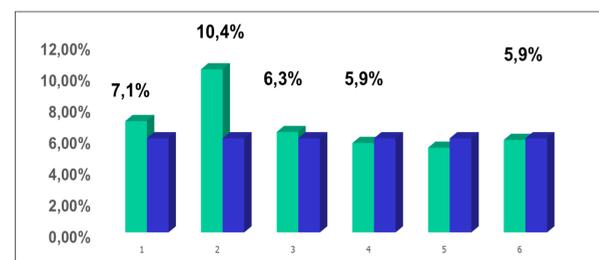
GLIBENCLAMIDE 0.3 mg/kg/day six time a day



Scheduled re-evaluations

- Significant improvement of glycemic control during 12 months
- No side effects
- No seizures
- Increase in muscles strength (at 18 month of age he could hold his head, roll over and sit with support)

HbA1c



CONCLUSIONS:

- 1.Any patient with NDM should be genetically tested as soon as possible and then referred to a center of expertise.
- 2.Patients with F132L mutation in *ABCC8* gene may respond to glibenclamide monotherapy at doses around 0,3 mg/kg/day with improvement of neurological symptoms.

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