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

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)

CONCLUSIONS:
1. Any patient with NDM should be genetically tested as soon as possible and than 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.

REFERENCES

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