LAFORA DISEASE AND DIABETES
Enlarging clinical phenotype

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ABSTRACT

Introduction
Lafora disease (LD) is rare, fatal, autosomal recessive progressive myoclonic epilepsy which results from carbohydrate accumulations in many tissues. We report a case of LD in a 14-year old adolescent associating aggravating neurological manifestations and non auto-immune diabetes.

Case report
A 14-year-old boy was transferred to our department for evaluation and management of seizures. His personal and family medical history is unremarkable, particularly for neurologic or metabolic disorders. His physical exam was normal, but the EEG recording showed many subclinical, paroxystic and photosensitive generalized spikes waves. A multidrug therapy was initiated, with progressive clinical and electrical impairment, and the diagnostic of progressive myoclonic epilepsy was suspected. 6 months later the diagnosis of non-autoimmune diabetes was made, requiring a very low dose of long-acting insulin. Testing for maturity onset diabetes of the young (MODY) found no mutations.
A retinal dystrophy was noted on electroretinogram and the skin biopsy found glycogen inclusions in the excretory ducts of eccrine sweat glands. Two years after the first signs of epilepsy, LD was confirmed with evidence of a c.386C> A p (Pro 129 His) mutation in the malin EMP2B gene. A new evaluation of pancreatic endocrine secretion showed a certain insulin resistance, with no pancreatic antibodies. Diabetes therapy was temporary switched to metformine, with satisfactory metabolic profile, but some side effects.

Conclusion
Abnormal glycogen metabolism and autophagy account for multiorgan accumulation of Lafora bodies with neurodegeneration and functional consequences (insulin resistance).