

Early Treatment With Metformin Improves Neurological Outcomes in Lafora Disease

AUTHORS

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RESEARCH SIMPLIFIED
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AIM

The aim of this study is to investigate if giving metformin early in the disease's course could help slow progression of the disease. The investigators tested this hypothesis on mouse models genetically engineered to mimic Lafora disease.

METHODS

The researchers assessed various neurological aspects in these mice, such as their motor skills, memory, propensity for seizure activity, and the presence of Lafora Bodies, neuroinflammation, and neurodegeneration. Additionally, they studied a group of Lafora disease patients, comparing those who received metformin with those who did not.

RESULTS

Their findings showed that starting metformin early significantly improved neurological function in the mice, reducing seizure activity, improving motor and cognitive abilities, and reducing the development of Lafora Bodies, neuroinflammation, and neurodegeneration. Similarly, Lafora disease patients treated with metformin experienced slower disease progression and better maintenance of daily activities compared to untreated individuals.

CONCLUSION

In summary, the investigators recommend treatment with metformin in all patients in the early stages of Lafora disease, as well as all pre-symptomatic patients when possible (such as siblings of Lafora disease patients with positive genetic testing).