

Are Patients Affected by Mitochondrial Disorders at Nutritional Risk?

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Abstract

Rationale: Patients suffering from mitochondrial disorders (MD) frequently present gastrointestinal complaints, mainly gastrointestinal dysmotility, that interfere with their food intake. Deterioration of their nutritional state may worsen the course of the disease. Our aims were to evaluate a simple screening tool to identify nutritional risk and to perform an extended nutritional assessment to explore the potential presence of deficiencies in this population compared to controls.

Methods: A prospective cohort study comparing outpatients with MD to matched healthy controls was conducted. Nutritional screening and full nutritional assessments were performed, including quantitative and qualitative dietary habits (7-day food log), body function and composition, resting energy expenditure and quality of life (QoL) measurements. Blood and 24-hour urine analyses were performed in the patient group.

Results: Twenty-six subjects were included: 11 in the patient group and 15 in the control group. No patient was screened as malnourished according to the nutritional risk score NRS-2002, but compared with controls, they had a significantly lower muscle mass ($p=0.04$), reduced handgrip strength ($p=0.07$), significant changes in QoL and pathologic creatinine height index, which indicate malnutrition. The patients also had a significantly lower protein intake ($p=0.01$).

Conclusion: According to the current definition from the international societies of clinical nutrition and metabolism, all patients fulfilled the criteria for manifest malnutrition. Thus, the usual nutritional screening tool is less sensitive for chronically ill outpatients. These results provide a rationale to increase protein intake and adapt patients' energy supplies to improve bodily symptoms and QoL.

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