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Letter to the Editor

MNGIE Patients Undergoing Liver and Intestinal Transplantation Require Close Postsurgery Monitoring of Neurological Involvement

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We read with interest the article by Kubal *et al*. about a 28-year-old male with myo-neuro-gastrointestinal encephalopathy (MNGIE) due to the compound heterozygous variant p.G311R and p.M294T in *TYMP1*, clinically presenting with gastrointestinal dysmotility, inability to walk, and heart failure [1]. At age 26 years, the patient underwent an allogenic liver transplantation, which resulted in normalisation of thymidine serum levels and he became ambulatory again [1]. However, the gastrointestinal dysmotility disorder persisted, so he underwent an intestinal transplant at the age of 28 years, which resulted in improvement of gastrointestinal impairment [1]. The study is impressive, but some points require further discussion.

The first point is that MNGIE is usually accompanied by severe leukoencephalopathy, which in some cases can lead to cognitive impairment and even dementia [2, 3]. However, it was reported that the index patient returned to work after the two surgeries [1]. What job did the patient have? Has he ever undergone a neuropsychological evaluation? Was there any impairment of cognitive functions before liver transplant?

The second point is that the patient received a series of immunosuppressive drugs to prevent rejection of the transplants (tacrolimus, prednisone, azathioprine, monthly basiliximab) [1]. Since some of them are potentially mitochondrion-toxic (corticosteroids, azathioprine, tacrolimus) [4, 5], we should know whether the index patient had any adverse reactions to any of the medications. In particular, we should know whether the extra-ocular muscle impairment or neuropathy has worsened. Glucocorticoids are known to cause myopathy (steroid-myopathy). Tacrolimus has been reported to cause sensorimotor, demyelinating neuropathy [6].

The third point is that the patient obviously also manifested phenotypically in the heart [1]. We should know the reason for the decreased systolic function before liver transplantation and whether the heart failure also improved after liver transplantation. Has he been diagnosed with cardiomyopathy? Cardiomyopathy has rarely been reported in MNGIE patients [7].

The fourth point is that the patient could not walk before liver transplantation [1]. Was inability to walk due to a central nervous system (CNS) cause or due to involvement of the peripheral nervous system (PNS) in MNGIE? Assuming that the muscle weakness was due to PNS involvement, we should know whether the patient had limb muscle myopathy or neuropathy, or both. MNGIE is typically characterised by myopathy of the extraocular muscle and demyelinating neuropathy, but rarely affects the limb muscles [8].

In summary, the interesting study has limitations that put the results and their interpretation into perspective. Removing these limitations could strengthen and support the study's message. Posttransplant monitoring of MNGIE patients undergoing liver transplant and intestinal transplant should also include the neurological manifestations of MNGIE because several of the immunosuppressive therapies used to prevent graft rejection are toxic to peripheral nerves and muscles.

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