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Relapsing remitting multiple sclerosis in patients under treatment with laquinimod

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Multiple sclerosis (MS) is a chronic autoimmune disease of the central nervous system (CNS), which is pathophysiologically characterized by both inflammatory demyelination and neurodegeneration. Laquinimod is a small molecule, an investigation for oral drug administration being developed for the treatment of relapsing-remitting multiple sclerosis (RRMS). We explore serum IgG antibodies to GM1, GM3 and GD1a gangliosides in our patients under laquinimod treatment. The results show high IgG titers of anti-GM1 antibodies, but low titers of anti-GM3 and anti-GD1a antibodies. There are no data laquinimod to affect the demyelinisation - in almost all patients the anti-GM1 antibodies titer is positive. It can be concluded that laquinimod has a neuroprotective action. Oral application of laquinimod against MS may reduce brain damage caused by neurodegeneration. Laquinimod has dual properties of immunomodulation and neuroprotection, and is a potentially promising oral treatment of RRMS.

Key words: serum anti-ganglioside antibodies, laquinimod, relapsing–remitting multiple sclerosis, neuronal damage, neuroprotection.