Serum ROCK2, miR-300 and miR-450b-5p levels in two different clinical phenotypes of multiple sclerosis: Relation to patient disability and disease progression

Mai Selim ,Samar H Ibrahim,Karim M El-Mehdawy , Maha M El-Sawalhi , Amira A Shaheen.

Abstract

Relapsing remitting multiple sclerosis (RRMS) is the most prevalent MS subtype. Years after disease onset, most of RRMS patients show transition into secondary progressive form (SPMS). Currently, no biomarkers are available for tracking disease progression. Here, we observed marked elevation of Rho-associated protein kinase 2 (ROCK2) along with significant downregulation of miRNAs 300 and 450b-5p expressions in the serum of 39 RRMS and 35 SPMS Egyptian patients compared to healthy controls. More pronounced alterations were found in SPMS versus RRMS patients. Our findings also suggest relations between elevated ROCK2 and reduced expression of both miRNAs with the degree of disability and disease progression. Notably, these biomarkers effectively discriminated RRMS from SPMS patients with miR-450b-5p showing the highest prognostic power.

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