Grave Prognosis of the MuscleSpecific Kinase (MuSK)-positive Myasthenia Gravis (MG): A False Prejudice

A widely held clinical and immune pathomechanism concern among clinicians are muscle-specific kinase (MuSK)-positive Myasthenia gravis (MG), wherein patients often have more severe presentation based on its distinctive phenotype of predominant cranial and bulbar weakness with occurrence of muscle atrophy, poor response to standard immunotherapies including IV immunoglobulin, and higher rate of life-threatening crisis.[1,2] Anti-MuSK antibodies are predominantly of IgG4 subclass, which differs from the classical acetylcholine receptor (AChR) antibodies in terms of mode of action, primarily due to its inability to activate complement and is unable to induce antigenic modulation.[3,4]

In this issue of AIAN, Samal and colleagues presented their experience on MG patients with different antibody status, comparing the clinical characteristics, treatment response to immunosuppressants, longterm prognosis, and quality of life.[5] The study included 23 patients with MuSK+ve, 55 with AChR+ve, and 9 with doubleseronegative myasthenia. They did not find any significant difference in all clinical parameters and outcomes. Comparable good response to treatment was observed in MuSK+ve MG with conventional immunosuppressant drugs (azathioprine and mycophenolate mofetil) similar to AChR+ve MG. Consequently, MuSK+ve MG has a nonsignificant increase in odds of developing the severe disease (adjusted odds ratio [OR] 1.27, CI 0.72–2.24) or poor outcome (adjusted OR 1.93, CI 0.69–5.42) compared with AChR+ve MG.

Collectively, results by Samal *et al.* and previously published studies demonstrated similar long-term outcomes between MuSK+ve and AChR+ve MG.[6,7] These series of analyses provided additional reassurance that the findings on the overall treatment outcome of MuSK+ve MG patients are consistent. Therefore, the use of aggressive therapy, for example, rituximab should only be started in patients' refractory or intolerance to conventional immunosuppressants, and not based on their antibody status. Certainly, treatment plan and prognosis should be based on overall clinical response and not guided by immune biomarkers alone.

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