

# Long-Term Efficacy of Non-steroid Immunosuppressive Agents in Anti-Muscle-Specific Kinase Positive Myasthenia Gravis Patients: A Prospective Study

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## **Objective:**

This study aimed to evaluate the efficacy of oral immunosuppressants (IS) in preventing relapse in anti-muscle-specific kinase (MuSK) positive myasthenia gravis (MG).

## **Background:**

Anti-muscle-specific kinase (MuSK) positive myasthenia gravis (MG) is characterized by a high relapsing rate, thus, choosing the appropriate oral drug regimen is a challenge.

## **Design/Methods:**

This prospective cohort observational study included patients with MuSK-MG at Peking Union Medical College Hospital between January 1, 2018, and November 15, 2021. The patients were divided into 2 groups: those with (IS+) or without (IS-) nonsteroid immunosuppressive agents. The primary outcome was relapsed at follow-up, and the log-rank test was used to compare the proportion of maintenance-free relapse between the groups; hazard ratio (HR) was calculated using the Cox proportional hazards models.

## **Results:**

Fifty-three of 59 patients with MuSK-MG were included in the cohort, 14 were in the IS+ group, and 39 were in the IS- group. Twenty-four cases in the cohort experienced relapse at least once; the relapse rate was 2/14 (14.3%) in the IS+ group and 22/39 (56.4%) in the IS- group. At the end of follow-up, the proportion of maintenance-free relapse was significantly different between the two groups (log-rank  $\chi^2 = 4.94$ ,  $P = 0.02$ ). Of all the potential confounders, only the use of IS was associated with a reduced risk of relapse. The HR for relapse among patients in the IS+ group was 0.21 (95%CI 0.05–0.58) and was 0.23 (95%CI 0.05–0.93) in a model adjusted for age, sex, relapse history, highest Myasthenia Gravis Foundation of America (MGFA), and accumulated time of steroid therapy.

## **Conclusions:**

This study provides evidence that oral non-steroid immunosuppressive agents may be beneficial in reducing relapse in patients with MuSK-MG.

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