Real World Use of Mycophenolate Mofetil in Active Moderate to Sight-Threatening Thyroid Eye Disease

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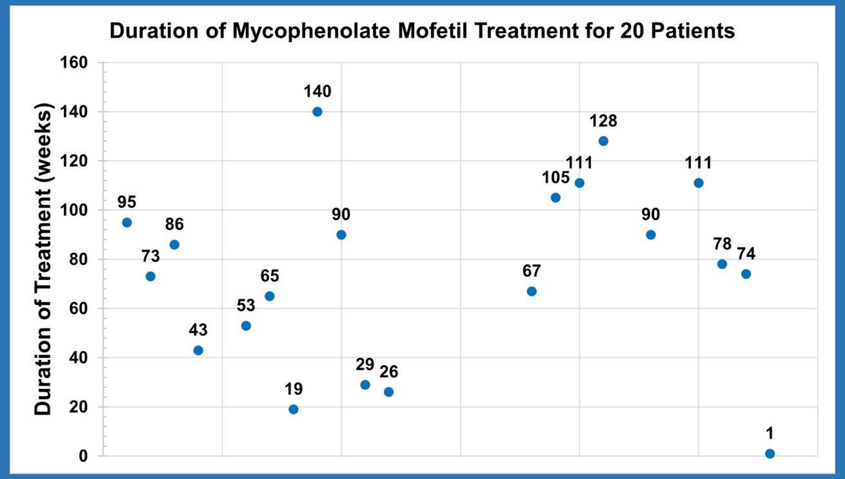
BACKGROUND

Following first-line intravenous methylprednisolone (IVMP) treatment for moderate/severe to sight-threatening Thyroid Eye Disease (TED), there is no universal consensus on second-line agents to maintain remission. We investigated mycophenolate mofetil (MMF) efficacy and safety in TED patients in our clinics[1], over a longer time period than in previous randomised controlled trials, such as the MINGO trial[2].

METHODS

A retrospective cohort study of patients with active moderate-severe TED attending multi-disciplinary TED clinics in Imperial College Healthcare NHS Trust from 2017-2020 was conducted. Data was collected at baseline, 24, 52 and 78 weeks for the following:

- Visual acuity (VA) changes
- Clinical Activity Scores (CAS)
- Gorman Diplopia score
- Ophthalmic soft tissue inflammation parameters
- MMF dosing, duration and side effects (SEs)
- Clinical relapse (decline in VA, further IVMP, increased CAS of ≥2)



DEMOGRAPHICS

Of the 20 patients, 60% were female with median duration of TED of 2.9 years (0.8-61.7). 90% received MMF for ≥24 weeks; 75% for ≥52 weeks; 50% for ≥78 weeks. Median duration of MMF treatment was 76 weeks (1-140 weeks).

RESULTS

- **24 weeks:** 17/18 (94.4%) showed clinical efficacy
  - CAS 0.73±1.09 vs. baseline 2.94±1.73 (p=0.0002)
  - 1 relapse due to decline in VA
- **52 weeks**: 12/15 (80.0%) showed clinical efficacy
  - CAS 0.92±1.00 vs. baseline 2.94±1.73 (p=0.0003)
  - 2 relapses due to decline in VA, further IVMP
- **78 weeks:** 9/10 (90.0%) showed clinical efficacy
  - CAS 0.94±1.13 vs. baseline 2.94±1.73 (p=0.002)
  - 2 relapses due to uptitration of MMF
- Consistently improved VA, diplopia, pain and soft tissue involvement
- **2 SEs:** 1 viral pneumonia, 1 treatment cessation for GI disturbance

CONCLUSION

In our experience, MMF is an effective second-line immunosuppressive agent for the treatment of TED and few accompanying side effects. We recommend further studies to identify optimal dosing regimens and ideal treatment duration.

1. Quah Qin Xian N, Alnahrawy A, Akshikar R, Lee V. Real-World Efficacy and Safety of Mycophenolate Mofetil in Active Moderate-to-Sight-Threatening Thyroid Eye Disease. *Clinical Ophthalmology*. In Press 2021
2. Kahaly G, Riedl M, König J et al. Mycophenolate plus methylprednisolone versus methylprednisolone alone in active, moderate-to-severe Graves' orbitopathy (MINGO): a randomised, observer-masked, multicentre trial. *The Lancet Diabetes & Endocrinology*. 2018;6(4):287-298. doi:10.1016/s2213-8587(18)30020-2