

Mycophenolate Versus Methotrexate in Non-Infectious Ocular Inflammatory Disease: A Systematic Review and Meta-Analysis

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Abstract : Purpose: To compare the outcomes of mycophenolate mofetil (MMF) versus methotrexate (MTX) in non-infectious ocular inflammatory disease (NIOID). Methods: A systematic review and meta-analysis were performed as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines and an electronic search was conducted to identify all comparative studies of MMF versus MTX in NIOID. Treatment results and side effects were primary outcome measures. Secondary outcome measures included visual acuity and resolution of macular oedema. Fixed and random-effects models were used for the analysis. Results: Four studies enrolling 905 patients were identified. There was no significant difference between MMF and MTX groups in overall treatment success (Odds Ratio [OR] = 0.97, P = 0.96) and failure (OR = 0.86, P = 0.85) of NIOID. Although treatment success of uveitis showed no significant difference for anterior and intermediate uveitis cases (OR = 2.33, P = 0.14), MTX showed a significantly improved effect in cases involving posterior uveitis and panuveitis (OR = 0.41, P = 0.003). However, the median dose required for treatment success was lower for MTX whereas MMF was associated with a faster median time to treatment success. Further to this, MMF showed a reduced rate of side effects when compared to MTX, but MTX failed to reach statistical significance, most notably for liver enzyme elevation (OR = 0.65, P = 0.16), fatigue (OR = 0.84, P = 0.49) and headache (OR = 0.81, P = 0.37). For secondary outcomes, no significant difference was noted in visual acuity and resolution of macular edema. Conclusions: MMF is comparable to MTX in the treatment of NIOID as there was no significant difference in the outcome of treatment success and side effect profiles.

Keywords : Mycophenolate mofetil, methotrexate, non-infectious ocular inflammation, uveitis, scleritis

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