

Efficacy and Adverse Events of Mycophenolate Mofetil Versus Cyclophosphamide for Induction Therapy of Lupus Nephritis

Systematic Review and Meta-Analysis

Nanticha Kamanamool, MD, MSc, Mark McEvoy, MSc, John Attia, MD, PhD,

Atiporn Ingsathit, MD, PhD, Pintip Ngamjanyaporn, MD, and Ammarin Thakkinstian, PhD

Abstract

Background: We performed a systematic review and meta-analysis of randomized controlled trials to compare complete remission and adverse events (that is, infection, leukopenia, and gastrointestinal [GI] symptoms) between mycophenolate mofetil (MMF) and cyclophosphamide (CYC) for the treatment of lupus nephritis (LN).

Method: We identified trials from MEDLINE using the PubMed and Ovid search engines, and from The Cochrane Central Register of Randomized Controlled Trials. Eligible studies were randomized controlled trials comparing MMF with CYC with 1 of following outcomes: complete remission, complete/partial remission, infection, leukopenia, GI symptoms, serum creatinine, 24-hour urine protein, and urine albumin. Data were independently extracted by 2 reviewers.

Results: Five trials with a total of 638 patients were eligible for review. While the MMF group tended to achieve complete remission more frequently than the CYC group, this was not significant (pooled risk ratio [RR], 1.60; 95% confidence interval CI, 0.87-2.93). Pooling based on the 4 homogeneous trials yielded similar results - that is, no benefit of MMF compared with CYC groups (RR, 1.15; 95% CI, 0.74-1.77). The complete or partial remission rates were also not different (pooled RR, 1.21; 95% CI, 0.97-1.48) among the groups. The adverse events (infection, renal function, and GI symptoms) were not significantly different, except for leukopenia, which was lower in the MMF group.

Conclusion: In summary, patients treated with MMF and CYC had similar remission rates, but the MMF group had less frequent leukopenia than the CYC group. Further large-scale trials are needed to confirm these results.

(Medicine 2010;89: 227Y235)