

# Therapeutic efficacies and predose plasma concentrations of mycophenolic acid and its glucuronide in systemic lupus erythematosus patients in remission maintenance phase

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Mycophenolate mofetil (MMF) has been recently reported to be effective in the treatment of systemic lupus erythematosus (SLE). The therapeutic range of mycophenolic acid (MPA) in SLE remains to be clarified. The aim of this study was to evaluate the therapeutic efficacy of MMF and predose plasma concentrations of MPA and its phenolic glucuronide (MPAG) in SLE patients in remission maintenance phase.

Thirty-one SLE patients receiving a fixed dosage of MMF (median and interquartile range, 1500 and 1000–2000 mg/day) for at least one month who had not experienced any adverse drug reactions for more than three months were enrolled. Clinical laboratory values obtained from routine laboratory examinations were compared between the last follow-up and the start of MMF administration. Predose plasma concentrations of MPA and MPAG were determined using HPLC.

Significant improvement was observed after MMF administration in total hemolytic complement CH<sub>50</sub> and its fractions C3 and C4, immunoglobulins IgG, IgA, and IgM, anti-dsDNA antibody, serum concentration of albumin, and red blood cell count, even though the mean daily dose of prednisolone was significantly reduced ( $P=0.02$ ). Median predose plasma concentrations of MPA and MPAG were 1.95 and 26.2 (interquartile ranges, 0.94–2.96 and 18.6–53.7)  $\mu\text{g/mL}$ . Predose plasma concentrations of MPA and MPAG were significantly correlated with MMF dose ( $r=0.64$ ,  $P<0.01$  and  $r=0.39$ ,  $P=0.03$ ).

MMF improved the clinical laboratory values and reduced prednisolone dosage in SLE patients in remission maintenance phase whose interquartile ranges of predose plasma concentration of MPA and MPAG were 0.94–2.96 and 18.6–53.7  $\mu\text{g/mL}$ , respectively.