
Background: Mycophenolate mofetil (MMF) or low-dose intravenous cyclophosphamide (CYC) are recommended as an initial (induction) treatment in many recommendations for the management of lupus nephritis (LN), and randomized controlled trials have shown their similar efficacy. However, there is little to no real-world data.

Objectives: We conducted the real-world analysis to compare the efficacy and safety of MMF and CYC for the induction treatment of LN.

Methods: Our patients came from PKUH ULE cohort, a single-center longitudinal observational cohort set up in 2007, and only patients received initial remission induction therapy for initial or recurrence LN were analyzed. The primary outcome measure was complete renal remission (CR) as defined by proteinuria <500 mg/m²/24 hours and serum creatinine within 10% from baseline in 12 month. All statistical analyses were performed with SPSS 26.0 and two sides p < 0.05 was considered statistically significant.

Results: The 237 LN patients with a median age of 35.0 years had a mean duration of disease of 5.2 years. Of these, 97 patients received CYC, 98 patients received oral MMF, and 42 patients received other immunosuppressive agents or combination therapy. The CR rate in 6-month in MMF was significantly higher than CYC group (CR 57.6% vs 45.2%, p=0.005), and that also applied to 12 month (74.7% vs 66.3%, p=0.001). MMF group had lower serum creatinine (78.6±14.5 vs. 93.3±8.2, p=0.012), lower dose glucocorticoid exposure (9.7±3.3 vs.11.2±5.6, p=0.05), and lower 24-hour protein level (0.4±0.7 vs. 0.7±1.0, p=0.017) than CYC group. However, MMF did not show superior to CYC in the LN induced remission rate (6 month:87.5% vs 73.7%, p=0.064, 12 month:87.7% vs 90.6%, p=0.632) after propensity score matching, just as the Kaplan-Meier analysis showed (Figure 1). Chinese patients usually adopted lower dose MMF (78.8% vs 15g/d) compared Caucasian populations, and which was also effective.

Conclusion: This was the first real-world study to compare the effectiveness and safety of MMF in LN compared with low dose CYC. We found that MMF had similar induction remission rate, with lower gastrointestinal adverse reactions and may decrease the urine protein (0.2±0.3 vs 0.6±1.0, p=0.031) and may increase the safety of MMF in LN compared with low dose CYC. We found that MMF had similar induction remission rate, with lower gastrointestinal adverse reactions and may less influence on menstruation and less pneumonia, even at relatively low doses. ACEIs/ARBs was benefit to decrease the urine protein and protect renal function.

References:

Disclosure of Interests: None declared