# TABLE 1. Absolute changes in biomarkers for treatment phase completers*

<table>
<thead>
<tr>
<th>Change from BL</th>
<th>At Wk 52</th>
<th>At Wk 104</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=54</td>
<td>n=102</td>
</tr>
<tr>
<td>Anti-dsDNA (I/U/ml)</td>
<td>-9 (83, 1)</td>
<td>-51 (-155, -3)</td>
</tr>
<tr>
<td>C3 (md/dl)</td>
<td>8.5 (6-21)</td>
<td>15 (0, 30)</td>
</tr>
<tr>
<td>C4 (md/dl)</td>
<td>2 (0.5)</td>
<td>2 (0.5)</td>
</tr>
<tr>
<td>B cells and B-cell subsets (cells/mI)</td>
<td>n=48</td>
<td>n=93</td>
</tr>
<tr>
<td>CD19*</td>
<td>-57570</td>
<td>-96,319 (-193,946, -44,240)</td>
</tr>
<tr>
<td>CD20*</td>
<td>-58,112 (-110,681, -32,694)</td>
<td>-39,482 (-89,567, -42,636)</td>
</tr>
<tr>
<td>Activated CD95*</td>
<td>-9991 (-17,900, -5560)</td>
<td>-3895 (-146, 14,393)</td>
</tr>
<tr>
<td>Memory CD20/CD27</td>
<td>9,586 (1500, 30,883)</td>
<td>-15,076 (-42,880, -6376)</td>
</tr>
</tbody>
</table>

*Excluded from analysis: all pts who discontinued the investigational product before Wk 52 and BEL/ST pts if discontinued before Wk 104, and BEL/PBO and BEL/RTX pts who re-started BEL after Wk 53; †n=101; ‡n=57.

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**OP0282**

**IMPACT OF ANIFROLUMAB ON NEUROPSYCHIATRIC MANIFESTATIONS OF DEPRESSION AND SUICIDALITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS**


**Background:** Neuropsychiatric (NP) disease is more common in patients with systemic lupus erythematosus (SLE) than in the general population.1 Increased incidence of NP events (depression and suicidality) has been reported with biologic therapies, including SLE therapies.2 Depression and suicidality were evaluated in patients with SLE treated with anifrolumab, a type I interferon receptor antibody, in the TULIP-1 and TULIP-2 trials.3,4

**Objectives:** To understand the impact of anifrolumab treatment on NP manifestations (depression and suicidality) in patients with SLE relative to standard therapy using pooled data from the TULIP trials.

**Methods:** TULIP-1/2 were randomized, placebo-controlled, 52-week trials of intravenous anifrolumab every 4 weeks in patients with moderate to severe SLE despite standard therapy.3,4 Patients with active severe or unstable NP SLE were excluded. Patients who received ≥1 dose of anifrolumab 300 mg or placebo were analyzed for depression and suicidality.3,4 The personal health questionnaire Depression Scale-8 (PHQ-8) and Columbia Suicide Severity Rating Scale (C-SSRS) were used to assess clinical depression and suicidal ideation and behavior, respectively. Incidence of adverse events (AEs) within the standardized Medical Dictionary for Regulatory Activities query of depression (excluding suicide and self-injury) and antidepressant use at baseline and during the study were also assessed.

**Results:** In the TULIP pooled analysis, 360 patients received anifrolumab and 365 patients received placebo. Mean PHQ-8 scores were in the mild range (3.8 < T ≤ 10); 9.7 in both groups at baseline (Table 1). Excluding patients taking antidepressants, mean PHQ-8 scores were 9.5 in the anifrolumab group and 9.7 in the placebo group at baseline. No clinically meaningful worsening in mean PHQ-8 scores was observed from baseline to Week 52 in the anifrolumab (–2.0) or placebo (–1.3) groups; excluding patients taking antidepressants, mean changes in PHQ-8 were –2.0 and –1.2, respectively. Depression AEs during the study were reported in 11 anifrolumab-treated patients (3.1%) and 9 patients who received placebo (2.5%). During the study, 6941 (-62,669, 67,355) -51,254 (-142,712, -14,736)

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**REFERENCES:**


**Figure.** C-SSRS Summary, Excluding Patients Taking Antidepressants

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**Table 1. PHQ-8 Summary**

<table>
<thead>
<tr>
<th>All patients</th>
<th>Excluding patients taking antidepressants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anifrolumab 300 mg N=360</strong></td>
<td><strong>Placebo N=360</strong></td>
</tr>
<tr>
<td><strong>n</strong></td>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td>Baseline</td>
<td>341</td>
</tr>
<tr>
<td>Week 24</td>
<td>295</td>
</tr>
<tr>
<td>Week 52</td>
<td>266</td>
</tr>
</tbody>
</table>

SD, standard deviation. PHQ-8 classifications: 0–4 = none, 5–9 = mild, 10–14 = moderate, 15–19 = severe, 20–24 = very severe. Mean change from baseline.

**OP0283**

**MYCOPHENOLATE MOFETIL VS CYCLOPHOSPHAMIDE FOR TREATMENT OF LUPUS NEPHRITIS: A SINGLE-CENTER COHORT- REAL-WORLD ANALYSIS**

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**Background:** Mycophenolate mofetil (MMF) or low-dose intravenous cyclophosphamide (CYC) are recommended as 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 PKUHF SLE 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/24 hour 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 patients had lower serum creatinine (76.8±14.5 vs. 93.3±62.9, 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 (6 month:87.5% vs 73.7%, p=0.064, 12 month:87.7% vs 90.8%, p=0.632) after propensity score matching, just as the Kaplan-Meier analysis showed (Figure 1).

**Conclusion:** Chinese patients usually adopted lower dose MMF (78.8% 1.5g/d,) compared Caucasian populations, and which was also effective.

**References:**


**OP0284**

**IMMUNOPHENOTYPIC CHARACTERIZATION OF PERIPHERAL BLOOD-DERIVED B LYMPHOCYTES OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS DURING B-CELL TARGETED THERAPY WITH ANTI-BLYS**

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**Background:** Belimumab, the first biological drug approved for the treatment of patients with Systemic Lupus Erythematosus (SLE), is a fully human IgG1 monoclonal antibody directed against Blys (B Lymphocyte Stimulator). Blys inhibition is associated with a reduction in circulating B subsets and short-lived plasmacells.

**Objectives:** The aim of this study was to characterize the B cell phenotype in SLE patients at baseline and after B-cell targeted therapy with Belimumab in a cohort of active SLE patients.

**Methods:** Fifty-four SLE patients diagnosed according to the 2012 SLICC criteria (49 females, mean age 40.6±13.2 years, disease duration 12.3±9.0 years, SLEDAI-2K 6.6±3.1) who received belimumab were enrolled. Phenotyping of peripheral blood (PB)- derived B lymphocytes (using as phenotypic markers IgD, CD27 and CD38) was performed at six (T6) and twelve (T12) months in 38 SLE patients, together with the expression of BAFF and BAFF-R by flow cytometry.

**Results:** In the whole SLE cohort, a reduction over time was observed in the percentage of CD19⁺ (T0:11.6±3.1% vs T6:9.7±3.3%, p<0.05) and naïve B cells (IgD⁺CD27⁻) (T0:55.8±28.7% vs T6:34.9±22.2%, p<0.01; T12:30.0±19.4%; p=0.04) and an increase of switched memory B cells (IgD⁺CD27⁺) (T0:21.0±20.2% vs T6:37.5±21.4%, p<0.01; T12:42.2±21.7%, p<0.02) after B-cell targeted therapy with anti-Blys. Moreover, a reduction of IgD⁺CD27⁻ memory B cells at T6 (p<0.01) was observed. Conversely, BAFF and BAFF-R expression in peripheral blood-derived CD19⁺ cells remained unchanged during therapy with anti-Blys. Stratifying SLE patients based on severe (renal and/or neurological) and mild (articular and/or cutaneous) organ involvement, a significant reduction of CD19⁺ percentage (T0:10.7±4.6% vs T6:6.8±2.4%, p<0.03; T12:2.4±3.3%, p=0.03) and naïve B cells (IgD⁺CD27⁻) (T0:55.8±28.7% vs T6:34.9±22.2%, p<0.01; T12:30.0±19.4%; p=0.04) and an increase of switched memory B cell subsets in both subgroups (severe T0:24.1±25.0% vs T6:44.9±27.4%, p<0.01) was found in SLE patients with mild organ involvement and a significant increase of switched memory B cell subsets in both subgroups (mild T0:19.8±18.3% vs T6:31.2±27.2%, p<0.01). Evaluating the B cell subsets regarding the response to treatment (based on the reduction of the SLEDAI-2K), a significant reduction of naïve B cells was observed at T6 in both SLE group,([responders T0:55.4±29.3 vs T6:32.3±19.9, p<0.01](no responders T0:63.1±41.3% vs T6:38.6±35.3%, p<0.05), with a significant higher percentage at baseline of switched memory B cells in responder SLE than in no-responder SLE group (22.4±21.2% vs 20.6±26.1%, p=0.02). ROC curve analysis of IgD⁺CD27⁻ subset ([AUC(95% CI):0.761:(0.566-0.957)p=0.023] identified a cut-off of 9.94% as the strongest predictor of response to belimumab after twelve months of therapy. Our patients came from PKUHF SLE 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/24 hour 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.

**Conclusion:** Anti-Blys therapy significantly impacts on the composition of peripheral blood B-cell subpopulations in SLE patients in relation with the distinct organ involvement. Moreover, baseline immunological features and IgD⁺CD27⁻ B cell subset rate are novel putative biomarkers of response to anti-Blys in SLE patients.

**References:**


