**Results:** ADA to RTX were found to be persistently positive in 64.3% of patients over the 36-month follow-up period and there was no significant difference in baseline disease activity (BILAG / SLEDAI-2K) between those who were subsequently ADA positive vs negative. ADA positive patients had a younger age at diagnosis of SLE when compared with ADA negative (mean 22.50 ± 9.10 vs 37.29 ± 11.31 years, p=0.002, Figure 1 A). Multivariate logistic regression found a 22% decrease in risk of ADA positivity for each additional year after diagnosis (p=0.03).

ADA positive patients had a significantly lower C3 level at baseline (mean 0.61 ± 0.23 g/L vs 0.87 ± 0.30 g/L, p=0.026), which remained lower at each subsequent time point post-treatment up to 12 months post-treatment (Figure 1B). At 1-3 months post-RTX, patients who were ADA positive had a significantly lower circulating drug level than ADA negative (p<0.001, Figure 1 C).

In terms of clinical response, ADA positive patients had an initial significant improvement in disease activity (SLEDAI-2K) by 3 months (p<0.001). However, response was not maintained at 12 months (Figure 1 D). In comparison, ADA negative patients showed a significant improvement in SLEDAI-2K at 26 months and this was maintained across the 36-month follow-up period (Figure 1 E).

BILAG defined relapse was more common at six months post-treatment in ADA positive patients (22%) and ADA highly positive patients (33%) than those who were ADA negative (in which there were no cases of relapse within the first six months, Figure 1 F). At 12-months post-RTX, a higher rate of BILAG defined Major Response was seen in those who were ADA negative (80%) when compared with ADA positive (44%) and high positive (36%) as shown in Figure 1 G. Finally, antibodies derived from all ADA positive samples (38/38) were found to neutralise RTX in vitro.

**Conclusion:** ADA to RTX were common and persisted over the 36-month period of this study. ADA associated with earlier serum drug elimination, increased relapse rates and demonstrated neutralising capacity suggesting that ADA could be a significant limitation to sustained response to treatment in clinical practice.

**REFERENCES:**


**Disclosure of Interests:** None declared

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**AB0434 EFFICACY AND SAFETY OF OBINUTUZUMAB IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS WITH SECONDARY NON-RESPONSE TO RITUXIMAB.**

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**Background:** Secondary inefficacy characterized by infusion reactions and anti-drug antibodies occur in 14% of SLE patients treated with repeat rituximab courses(1). Obinutuzumab is a next-generation humanized type-2 anti-CD20 therapy licensed for hematological malignancies which may overcome this issue(2).

**Objectives:** We set out to evaluate the clinical efficacy and safety of obinutuzumab in a cohort of rituximab resistant SLE patients.

**Methods:** We collated data from SLE patients receiving obinutuzumab for secondary non-response to rituximab in BILAG centres. Disease activity was assessed using BILAG-2004, SLEDAI-2K and serology before, and 6 months after, obinutuzumab 2x1000mg infusions alongside methylprednisolone 100mg. Flow cytometry where possible was carried out using a multiple gating highly sensitive strategy.

**Results:** All 9 patients included in the study received obinutuzumab alongside concomitant oral immunosuppression. At 6 months post-obinutuzumab, there were significant reductions in median SLEDAI-2K from 12 to 6 (p=0.014) and total BILAG-2004 score from 21 to 2 (p=0.009). Complement C3 and dsDNA titres improved significantly (both p=0.04). Non statistically significant numerical improvements were seen in C4 levels.

Of 8/9 patients receiving concomitant oral prednisolone at baseline (all >10mg/ day), 5/9 had their dose reduced at 6 months; 4/8 were on 5mg/day and were in Lupus Low Disease Activity State. After obinutuzumab, 6/9 patients with peripheral B-cell data achieved complete depletion including 4/6 assessed with highly sensitive assays. 1/9 obinutuzumab non-responder required cyclophosphamide therapy, 1 unvaccinated patient died from COVID-19.

**Conclusion:** Obinutuzumab appears to be effective and steroid-sparing in renal and non-renal SLE patients with secondary non-response to rituximab. Obinutuzumab was shown to be effective in patients with severe renal and non-renal disease. Therefore, in those with previous responsiveness to B-cell depletion, switching to humanised type-2 anti-CD20 therapy is a logical approach following loss off efficacy.

**REFERENCES:**


**Disclosure of Interests:** Jack Arnold: None declared, Shouvik Dass Consultant of: Roche, Abbvie, UCB & Chugai, Employee of: Honorsoria from Roche, Abbvie, UCB & Chugai, Sarah Twigg: None declared, Colin Jones: None declared, Benjamin Rhodes: None declared, Peter Hewins: None declared, Mithun Chakravorty: None declared, Philip Courtney: None declared, Michael Ehrenstein Grant/research support from: GSK, Employee of: Has received honoraria from GSK, Md YusufI Md Yusof: None declared, Edward Vital Employee of: Has received honoraria from Roche

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**AB0435 LUPUS NEPHROPATHY RESPONSE IN TERMS OF KIDNEY FUNCTION, URINE SEDIMENT AND SEROLOGICAL ACTIVITY AFTER SUBCUTANEOUS BELIMUMAB TREATMENT.**

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**Background:** Systemic lupus erythematosus (SLE) is a heterogeneous autoimmune disease. Kidney affection appears in 40-50% of SLE patients and may condition the prognosis. Belimumab is a monoclonal antibody approved for SLE
since 2011, but it had no lupus nephritis (NL) indication. Recently, promising results from a controlled Belimumab trial in LN were published.

Objective: To analyze effectiveness of Belimumab in LN patients under follow-up by the rheumatology department of a tertiary hospital.

Methods: Observational, retrospective and cross-sectional study including SLE patients (SLICC/ACR 2012 criteria) treated with subcutaneous and/or intravenous Belimumab. Demographic and serological data, concomitant treatment, kidney function and urine sediment were collected.

Results: Sixteen patients with a median age of 47.56 (11.66) years and with 5.40 (0.55) years since Belimumab onset were included. Five patients had LN demonstrated by kidney biopsy and they were included on analysis data. In this group, median age was 39 (6.96) years, patients had 17.80 (10.38) years since Belimumab onset. The most prevalent nephritides type was III and IV, only one patient presented V type.

Regarding the treatment, every patient received antimarial drugs (chloroquine 40%, hydroxychloroquine 60%) and mycophenolic acid. Concerning the corticosteroid therapy, all patients receive prednisone, with an average dose of 4 mg per day.

The results obtained were included in the Table 1.

Conclusion: Belimumab can improve LN, in terms of serological activity, kidney function and urine sediment. It could be a promising option associated to standard therapy for SLE patients with kidney affection.

Disclosure of Interests: None declared.


AB0436  EFFECTIVENESS OF BELIMUMAB IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS: A REAL-LIFE ANALYSIS

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Background: Efficacy and safety of belimumab (BLM) in Systemic Lupus Erythematosus (SLE) patients with active disease have been demonstrated by RCTs [1,2] and confirmed by several observational studies [3-8]. Most of these data have been obtained by the use of BLM intravenous formulation (IV); on the contrary, very few findings are available on the use of the drug subcutaneous formulation (SC).

Objectives: Efficacy and drug survival of BLM have been assessed in a monocentric cohort of SLE patients, exploring any difference between the two routes of administration, IV or SC.

Methods: A longitudinal study on SLE patients (according to ACR 1997 classification criteria [9]) candidates for treatment with BLM has been performed. Demographic, clinical-laboratory and therapeutic data - including glucocorticoid dosage in prednisone-equivalent - have been collected. Disease activity has been assessed by SLEDAI-2k [10]; in patients with inflammatory articular involvement, DAS28-PCR [11] has been used. In compliance with the study protocol, patients were assessed at baseline and at 3 and 12 months after starting treatment.

Results: A total of 85 patients treated with BLM were enrolled, most of whom were female (male/female 2/83), with a median age of 48 years (IQR 13) and a median disease duration of 127 months (IQR 151). Fifty-one patients (60%) were female (male/female 2/83), with a median age of 48 years (IQR 13) and a median disease duration of 127 months (IQR 151). Fifty-one patients (60%) were treated with IV formulation and the remaining 34 (40%) with SC route. BLM was prescribed due to the following clinical manifestations: joint involvement (81.2%), cutaneous manifestations (20.0%), renal involvement (for residual proteinuria, 5.9%), haematological modifications (5.9%), constitutional involvement (3.5%), pericarditis (1.2%), headache (1.2%). In both the formulations, joint involvement was the most frequent indication of BLM (IV: 64.7%, SC: 58.8%). Median treatment duration was 15 months (IQR 24). Moving on drug efficacy, after 3 and 12 months of follow-up BLM has determined a significant reduction of SLEDAI-2k median values (p<0.001, p<0.001 respectively).

Conclusions: Our results confirm BLM efficacy also in a real-life setting. Notably, our data highlight a better drug survival in patients treated with SC formulation, mainly secondary to a less frequency of adverse events.

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Disclosure of Interests: None declared.


AB0437  MONTELUKAST AS A TREATMENT FOR REFRACTORY CUTANEOUS LUPUS ERYTHMATOSUS: A CASE SERIES AND PROOF-OF-CONCEPT STUDY

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Background: Treatment of cutaneous lupus relies mostly in avoidance of exposure to sunlight, steroids and hydroxychloroquine. A diverse array of cytokines and chemokines released by resident and migrating inflammatory cells have been implicated in the pathogenesis of skin damage in patients with systemic lupus erythematosus (SLE). Leukotrienes are potent lipid mediators involved in hypersensitivity reactions but very few data exist on their involvement in SLE.

Objectives: Our aim is to report a case series of SLE patients with refractory skin lesions that were successfully treated with sodium montelukast (MLK), a cysteinyl-leukotriene antagonist.

Methods: We present 4 consecutive female SLE patients with refractory skin lesions that were treated with MLK (10mg/d). Skin lesions were scored using...