The greatest elastin antibody titer was noted in patients with SLE grade III (57.1%, 4 people), with grade II – in 42.5% (17 people), and with grade I – in 33.3% (6 people).

The elastin antibody titer in SLE patients being admitted to hospital was reliably higher than in donors ($p<0.001$).

An analysis of the findings showed that patients with vascular lesions demonstrated a significant elevation of elastin antibodies ($p<0.05$).

Besides studying elastin antibodies, we analysed elastase antibodies. Elevated elastase antibodies were revealed in 72.2% of SLE patients with grade I of the condition; in 80.0% with grade II, and in 85.7% of patients with grade III. The titer of elastase antibodies in SLE patients admitted to hospital was reliably higher than in the control group ($p<0.01$). The highest elastase antibody titer was noted when the skin and joints are affected, and vasculopathy is present.

Conclusions: The regularities revealed by pathogenetic method can be accounted for by considerable B-clonal expansion in SLE patients as the condition progresses. From the point of view of immunology, hyperproduction of elastin and elastase autoantibodies is noted, which results in autoimmune lesion of the ligamentous apparatus, joints, skin and vessels where this protein is naturally present.

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AB0527

S100A8 AND S100A9 PROTEINS ARE NOVEL BIOMARKERS FOR THE EFFICACY OF HCQ TREATMENT TO SKIN LESION IN SYSTEMIC LUPUS ERYTHEMATOSUS

R. Wakiya, K. Ueada, T. Kameda, S. Nakashima, M. Izumikawa, H. Shimada, A. Kondo, M. Kato, T. Miyagi, N. Kadowaki, H. Dobashi. *Department of internal medicine, Division of hematology, rheumatology and respiratory medicine, Kagawa University, Kagawa, Japan*

Background: Systemic lupus erythematosus (SLE) is deeply associated with not only acquired immunity but also innate immunity throughout toll like receptors (TLRs) signalling. Among many TLRs, TLR7 and TLR9 were reported to be closely associated with IFN- α production which contributed the pathogenesis of SLE. On the other hand, several reports demonstrated that S100A8 and S100A9 proteins which was known as one of damage-associated molecular patterns (DAMPs), were associated with disease activity of lupus nephritis. These proteins were also shown to reflect the treatment response by immunosuppressive therapy for SLE.^{1,2} However, there is no report about the effect of hydroxychloroquine (HCQ) on S100A8 and S100A9 proteins expression.

Objectives: To find a new biomarker of treatment with HCQ, we focused on expression of S100A8 and S100A9 proteins in SLE.

Methods: We enrolled all SLE patients treated with HCQ in the absence of additional immunosuppressive therapy more than 3 months in our institute from Jan 2016 to Dec 2017. Serum levels of S100A8 and S100A9 proteins were measured by ELISA (CircuLex ELISA Kit, MBL) at the screening, 3 months and 6 months after HCQ administration. Disease activity of SLE was measured using the SLENA-SLEDAI 2011. Cutaneous disease activity was evaluated by Cutaneous Lupus Erythematosus Disease Area and Severity Index (CLASI). Immunological activity was examined by the levels of complement (C3, C4, CH50), anti-dsDNA antibody and counting blood cell.

Results: 61 patients were enrolled in this study. HCQ was administered 48 cases with usual dose (based on ideal weight), 15 cases with low dose than usual dose (table 1).

Abstract AB0527 – Table 1

HCQ dose	Usual dose (n=46)	Low dose (n=15)	P
Age, years, mean $\pm$ SD	40 $\pm$ 12	46 $\pm$ 9	0.07
Female, no. (%)	43 (93)	13 (87)	0.40
Disease duration, years	13 $\pm$ 10	11 $\pm$ 8	0.61
skin lesion	40 (87)	14 (93)	0.48
renal lesion	19 (41)	0 (0)	<0.001
SLEDAI score	3.9 $\pm$ 2.2	2.7 $\pm$ 1.8	0.06
anti-dsDNA, IU/ml	15 $\pm$ 17	9.9 $\pm$ 3.1	0.91
C3, mg/dl	79 $\pm$ 24	87 $\pm$ 26	0.32
C4, mg/dl	16.1 $\pm$ 7.6	19.2 $\pm$ 9.2	0.30
CH50, U/ml	33.6 $\pm$ 9.6	37.3 $\pm$ 7.4	0.30
CLASI activity	3.6 $\pm$ 3.2	2.6 $\pm$ 2.8	0.11
Prednisone	41 (89)	15 (100)	0.11
Dose, mg/day	5.6 $\pm$ 3.1	8.1 $\pm$ 5.1	

CLASI was improved by the treatment with HCQ independent of HCQ dose. However, the effect of HCQ on SLENA-SLEDAI and immunological biomarker was shown in the patients treated with usual dose HCQ, not shown in those treated

with low dose HCQ. On the other hand, serum levels of S100A8 and S100A9 proteins were significantly elevated in SLE patients with renal lesion ($p=0.02$). These proteins were significantly decreased by the treatment with HCQ regardless of the HCQ dose ($p<0.0001$). The changes of serum S100A8 and S100A9 proteins during HCQ treatment (for 3 months) were significantly associated with changes of CLASI (figure 1).

Abstract AB0527 – Figure 1. S100A8 and S100A9 proteins associated with CLASI score. Compared with SLE patients of 50% and less rate of change of CLASI activity, those of more than 50% rate of change of CLASI activity significantly decreased serum levels of S100A8 and S100A9 proteins after administration of HCQ. There were no SLE patients whose skin lesion got worse during HCQ treatment in this study.

Conclusions: HCQ reduced the expression of serum S100A8 and S100A9 proteins, which reflected SLE disease activity especially in skin lesion. The measurement of S100A8 and S100A9 proteins is novel predictive biomarker for the efficacy of HCQ treatment on skin lesion in SLE patients.

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AB0528

CONCOMITANT MEDICATION IN SYSTEMIC LUPUS ERYTHEMATOUS (SLE) PATIENTS TREATED WITH BELIMUMAB IN CLINICAL PRACTICE SETTINGS: RESULTS FROM THE OBSERVE STUDY IN SWITZERLAND

J. von Kempis¹, S. Dütsch², N. Reuschling^{1,3}, D. Schaer⁴, F. Vallerian⁴, R. Villiger⁵, P.M. Villiger⁵, R.B. Mueller¹. ¹Department of Rheumatology, Kantonsspital St. Gallen, St. Gallen; ²GlaxoSmithKline AG, Münchenbuchsee; ³Division of Rheumatology, Hirslanden, Basel; ⁴Universität Hospital Zürich, Zürich; ⁵Department of Rheumatology, Inselspital Bern, Bern, Switzerland

Background: Systemic lupus erythematosus (SLE) is a complex and potentially severe autoimmune disease. Belimumab is the latest drug, and the first biologic compound, that was registered for treatment of SLE. There is limited information on safety and effectiveness of belimumab and its effects on the use of concomitant medication outside of randomised controlled trials.

Objectives: To describe the overall patterns of SLE care, outcomes and concomitant medication among belimumab users in Switzerland.

Methods: OBSERVE Switzerland (GSK 201232) was a retrospective, multi-centre observational cohort study collecting data on the use of belimumab therapy in routine care of SLE Patients in Switzerland. SLE patients were included who had started therapy with 10 mg/kg belimumab/4 weeks at least six months before documentation. All patients were included regardless of treatment discontinuation during the study period. All statistical analyses were descriptive for both categorical and quantitative data.

Results: 53 SLE patients with belimumab as part of their routine treatment were analysed for this study. 81% of the patients were female, the mean age was 46.7 years and the mean BMI was 25.4 kg/m². The reasons to initiate belimumab were ineffective previous treatment (66.0%), worsening of patient condition (28.3%), and/or the intent to decrease glucocorticosteroid (GC) dose (47.2%).