THE EFFECT OF HYDROXYCHLOROQUINE ON COMPLEMENT STATUS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS; ANALYSIS OF JAPANESE REAL-WORLD PATIENTS WITH SLE IN A LARGE SINGLE CENTER OVER TWELVE-MONTH PERIOD

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Background Complement is a biomarker known to be correlated with disease activity of systemic lupus erythematosus (SLE). However, it is not well-known how complement level changes after starting hydroxychloroquine (HCQ), one of the key drugs for the treatment of SLE, in patients with SLE. The aim of this study is to investigate the effect of HCQ on complement levels over a 12 month period in a large single center cohort of SLE in Japan.

Methods We retrospectively collected the data of all the 244 lupus patients treated with HCQ from the electrical medical record at St Luke’s International Hospital, Tokyo, Japan. We extracted the following parameters during the period between April 2008 and March 2018; baseline characteristics, complements levels (C3 and C4) at baseline1 month, 3 months, 6 months, 9 months, and 12 months after starting HCQ. Statistical analysis was performed using SPSS Statistics Version 21 (IBM Corp., Armonk, NY, USA). Mauchly’s sphericity test and analysis of variance with Greenhouse-Geisser correction was used.

Results Total 244 patients on HCQ were included but 130 patients were excluded due to lack of sufficient data. The mean age of these 114 patients was 40.2 years and 108 patients (94.7%) were female.

The level of C4 (mg/dL) increased significantly (p<0.001) after starting HCQ. Specifically, the level increased more dramatically from month 1 to month 3 compared to the other periods, and steadily increased event 6 months after initiating HCQ. In terms of C3, it showed the same trend. The number of flares of disease activity has been calculated.

Conclusions The level of complements increases after initiating HCQ therapy in real-world patients with SLE in Japan. The effect tends to emerge 3 months after starting HCQ. We will show the data between disease activity and the elevation of complements.

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