(85.5%) showed DLE alopecia. In the DLE alopecia group, patients with fingernail changes showed a higher incidence rate of additional CLE lesions on extremities (p=0.049) and the Raynaud phenomenon than those without fingernail changes (p=0.009). There were significant differences in positivity for antinuclear antibody between CLE patients with DLE alopecia and other patients (p=0.04).

Conclusions This study reviewed the clinical features of scalp and nail apparatus involvement in Korean CLE patients and is the first study to demonstrate significant correlations between these clinical findings and the laboratory findings. Involvement of the scalp and nails in CLE patients is an important disease manifestation, and proper understanding could be essential for diagnosis and efficient management.

LP-059 ASSOCIATION OF SEASONAL VITAMIN D LEVELS AND DISEASE ACTIVITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background Recently, vitamin D has been shown to play an important role in the immune responses, increasing evidence that it can contribute to the pathogenesis of systemic lupus erythematosus (SLE) as well as affect disease course and activity. Therefore, this study aims to determine whether there is a correlation between seasonal vitamin D levels and clinical manifestations or disease activity.

Methods Seasonal measurements of serum 25(OH)D3 were performed in December to February in winter time and in July to September in summer time. We included patients with SLE who measured serum 25(OH)D3 from 2013 to 2016, with 407 patients measured during winter and 375 patients measured during summer. Vitamin D-deficient groups were classified based on 20ng/ml, 25ng/ml, and 30ng/ml for each summer and winter. The relationship between vitamin D concentrations and clinical manifestations or disease activity was analyzed using logistic regression analysis.

Results There were seasonal differences in the reference concentration of vitamin D, which affects disease activity or clinical manifestations, and the values were 20ng/ml and 30ng/ml in winter and summer, respectively. In the winter vitamin D-deficient group (less than 20ng/ml), the erythrocyte sedimentation rate was 23.9mm/hr, which was marginally higher than that in the vitamin D-sufficient group (22.4mm/hr, p = 0.08). In addition, oral ulcer was significantly less frequent in winter vitamin D-sufficient group (Odds ratio [OR] 0.530, p = 0.047). In summer, oral ulcer (OR 0.278, p = 0.019) and skin rash (OR 0.221, p= 0.015) were significantly less common in vitamin D-sufficient group with cut off of 30ng/ml.

Conclusions In conclusion, this study suggests that seasonal variations in serum vitamin D may affect the clinical manifestations of SLE, and that vitamin D-deficiency leads to increased oral ulcer, skin rash, and inflammatory marker.

LP-060 EXTRACELLULAR VESICULAR PROTEINS IN PLASMA FROM PATIENTS WITH CUTANEOUS LUPUS CORRELATE WITH DISEASE ACTIVITY

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Background Cutaneous lupus erythematous (CLE) is amanifestation of systemic lupus erythematosus (SLE) that may have no systemic symptoms. SLE is known to affect a heterogeneous group of patients, and drug treatment response differs between each affected organ. Extracellular vesicles (EVs) have attracted attention as new communication tools between cells, that encapsulate various substances and deliver them rapidly throughout the body. We hypothesized that EVs might support disease specific inflammation in CLE and SLE.

Methods EVs were isolated from the plasma of 5 healthy controls, 6 CLE patients, and 17 dermatomyositis patients using sequential ultracentrifugation and size-exclusion chromatography (SEC). Surface markers were detected by MACSPlex bead flowcytometry. Protein content of the EVs was analyzed by mass spectrometry using LC-MS/MS.

Results EVs in blood are mainly derived from platelets, endothelial cells, and antigen-presenting cells. EVs from CLE patients' blood contained 4 unique proteins:, Mimecan, Interferon alpha-inducible protein 27, Fibulin-2, and Small nuclear ribonucleoprotein-associated proteins B and B' (antigens of anti-Sm antibodies). A number of these proteins were increased in patients with a high SLEDAI (SLE Disease Activity Index). 18 significantly upregulated and 15 downregulated proteins were detected in CLE EV compared with HC. A number of upregulated proteins demonstrated a positive correlation with the SLEDAI (r=0.79), but not with the cutaneous lupus erythematosus disease area and severity index (CLASI) (r=0.21). Of the 18 proteins increased in CLE EVs, lysozyme C and hyaluronan-binding protein densities were positively correlated with CLASI (r=0.74 and r=0.86 respectively), but not with SLEDAI (r=0.52,

Conclusions EVs in the blood of CLE were abundantly derived from antigen-presenting cells, and contained disease-specific proteins such as anti-Sm antigens and pro-inflammatory proteins. The concentration of some of the proteins contained in EV of CLE blood correlated with CLASI rather than SLEDAI, suggesting that the content of EV's are different in SLE and CLE.