Background and aims SLE patient who had deficiency of vitamin D, had worsen clinical manifestation. Vitamin D and Curcumin; a novel Vitamin D Receptor (VDR) ligand, are immunomodulator. The purpose of this study, to compare efficacy whether curcumin supplementation in vitamin D treatment will give improvement of disease activity, fatigue and proteinuria in SLE patient with vitamin D deficiency.

Methods This study was a double blind RCT included 40 active SLE patient more than 18 yo with level 25(OH)D3 ≤30 ng/ml were enrolled for this study. There were divided into 2 group, control group who received cholecalciferol 3 × 400 IU plus placebo and trial group who received cholecalciferol 3 × 400 IU and curcumin 3 × 20 mg for 6 months. Demographic data, family history, medications, laboratory test, SLEDAI and FSS were taken before and after treatment. Serum cytokines were measure using ELISA. The results between 2 groups were evaluated with independent t-test and spearman/pearson correlation test using SPSS software.

Results Age of participant are 28.1±8.1, disease duration 3.1 ±2.3 year. The addition of curcumin in the supplementation treatment with vitamin D increase the benefit of vitamin D. Combination of curcumin and vitamin D result in better disease activity suppression, less fatigue and less proteinuria compare with vitamin D supplementation alone. The clinical improvement were related to decrease in proinflammatory cytokines ( IFNγ, TNFα and IL-17 ). There were no major adverse events in both groups.

Conclusions The addition of curcumin to the vitamin D supplementation therapy result in better efficacy.

Abstracts

94 DEVELOPMENT OF THERAPY USING BRYOPHYLLUM PINNATUM TO DECREASE MATURATION AND INCREASE APOPTOTIC B CELLS FROM BALB/C LUPUS MICE: IN SILICO AND IN VITRO STUDY APPROACH

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Background and aims To investigate the effect of Bryophyllum pinnatum extract to B cells by supressing maturation and increasing apoptosis of B cells.

Methods In silico study was done to understand affinity of Bryophillin A, Bryophillin B, Bryotoxin A, Bryotoxin B, Kaempferol, p-coumaric acid affinity in Bryophyllum pinnatum against B cell activating factor (BAFF) and its receptors: B cell activating factor receptors (BAFF-R), transmembrane activator and calcium modulator and cyclophilin ligand interactor (TACI), and B-cell maturation antigen (BCMA). In vitro study was done by culturing B cells from pristane induced lupus BALB/c mice’s spleen. B cells were cultured into four groups, one as a control and the other groups given Bryophyllum pinnatum extract (0.02, 0.1, and 0.5 μg/L). Percentage of maturation (CD19+/CD38+) and apoptosis (Annexin V+/PI+) of B cells determined using flow cytometry. Immunocytochemistry assay was performed to determine the expression of transcription factor NF-kB p65.

Results Molecular docking results show that all of Bryophyllum pinnatum compounds studied have affinities for BAFF-R, TACI, BCMA and BAFF. Flow cytometry assay showed significantly decrease in percentages of maturation of B cells in all doses (p<0.05), significantly increase in percentages of apoptotic B cells in dose 0.5 μg/L (p<0.05). The results of immunocytochemistry showed decreased expression of NF-kB p65 were significant at all doses (p<0.05).

Conclusions In silico and in vitro study revealed that Bryophyllum pinnatum is potential natural product which may be used for B cell depleting agent in development of biosimilar therapy in systemic lupus erythematosus.