

Effect of vitamin D3 (25-OH cholecalciferol) therapy on the clinical status in adult Bahraini patients with systemic lupus erythematosusAdla B Hassan¹, Eman Farid², Ahmed A Jaradat¹ and Ola Al- Segai²¹Arabian Gulf University, Bahrain²Salmaniyah Medical Complex Hospital, Bahrain

Introduction: The relationships between serum levels of Uric Acid (UA) and vitamin D3 (25-OH Cholecalciferol) in systemic lupus erythematosus (SLE) have been revealed separately; however, a possible link between these two factors and their interaction with SLE severity has not been clarified yet. This is the first study on investigating the conjoint association of vitamin D3 and UA on disease activity in Bahraini patients with SLE.

Objectives: To evaluate serum UA and serum vitamin D3 (VD) as important factors in clinical status in adult Bahraini patients with SLE and to look into the possible correlation between these two factors and their relation to disease activity in this patient's group.

Materials & Methods: 51 adult Bahraini SLE patients (mean age of 40.8 years, females were 84.3%) were included in this retrospective longitudinal (two-time points) study. Blood samples were taken before and after VD therapy 2-3 months apart at Salmaniyah Medical Complex. All patients received oral VD therapy in form of tablets (50.000 IU) once per week for a maximum period of 3 months. Blood samples were obtained for determination of serum levels of VD, calcium, phosphorus, alkaline phosphatase (ALP) and parathyroid hormone (PTH), but also for serum UA, complements (C3&C4), C-reactive protein (CRP), antinuclear antibodies (ANA) and anti-double-stranded (ds)- DNA antibody.

Results: The current study showed that VD therapy brings about two fold increment in its mean serum level ($P<0.0001$) with increased in serum calcium ($P<0.05$). Wonderfully, the mean serum levels of ds-DNA auto-antibodies and UAUA were significantly decreased after VD therapy ($p=0.015$ and $p=0.010$, respectively). Interestingly, when the group was segregated by gender and age; the female group and the age group <40 years, independently, showed statistically significant difference in all parameters exactly as the whole group. Comparably, both the male group and the age group ≥ 40 years showed notable reduction in mean serum UA, but that was statistically not significant.

Conclusion: We evaluated serum UA and serum VD as important factors in SLE disease. Our study showed strong inverse correlation between these two factors, thus, the correction of hypovitaminosis in SLE patients resulted in reduced serum UA. The current study established that serum VD levels are inversely correlated with both serum uric acid and disease activity, undependably, in adult Bahraini patients with SLE. Consequently, we strongly recommend VD supplementation for Bahraini patients with SLE.

Biography

Adla Bakri Hassan is MD (Sudan), MPhil (Sweden), PhD (Sweden), PGDip (MSK US, Spain), She graduated from Gezira University in Sudan. She did her postgraduate studies and training at Karolinska Institute and Karolinska Hospital in Sweden, also at Hope Hospital in United Kingdom. She has experiences over 20 years in different hospitals and countries treating rheumatic disease patients; Sudan, Sweden, UK and Bahrain. She has over 10 years' experience in teaching medical students. She is currently working as an Assistant Professor in the department of internal medicine at Arabian Gulf University (AGU) in Kingdom of Bahrain and as Consultant Rheumatologist at the University Medical Centre (UMC). She is a Reviewer and has over 20 publications in peer-reviewed journals.

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