AB0552

25 HYDROXY-VITAMIN D LEVEL IN SYSTEMIC LUPUS ERYTHEMATOSUS: IS IT RELATED TO DISEASE ACTIVITY AND LUPUS NEPHRITIS?

Alshaimaa Rezk Lotfy Rezk Alnaggar, Ahmed Fayed, Ahmed Soliman. Cairo University, Faculty Of Medicine, Kasr Al Ainy, Internal Medicine, Cairo, Egypt

Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease. SLE is attributed to different autoimmune mechanisms leading to the production of several autoantibodies and formation of immune complexes with subsequent organ damage. 25 hydroxy-vitamin D3 (25(OH)D3) plays a significant role in immune system regulation and is an important immunomodulatory hormone involved in various biochemical reactions.

Objectives: Are to assess the levels of 25(OH)D3 in patients with SLE and to investigate the relationship between 25(OH)D3 levels and disease activity in patients with and without lupus nephritis.

Methods: 300 subjects were included in the study and were divided into 3 groups: group 1 consisted of 100 patients with SLE and lupus nephritis (LN), group 2 consisted of 100 patients free from LN and group 3 consisted of 100 healthy volunteers as a control group. All patients fulfilled the American College of Rheumatology criteria for diagnosis of SLE and were recruited from Internal Medicine department and out-patient clinics, Cairo University Hospital. Exclusion criteria included diseases and drugs which affect the endothelial function such as: smoking, diabetes mellitus, essential hypertension, and coronary artery disease and drugs such as nitrates, hypolipidaemic drugs and aspirin. Disease activity was evaluated by systemic lupus erythematosus disease activity index (SLEDAI). 25(OH)D3 was measured using ELISA. 25(OH)D3 level ≥ 30 ng/ml was considered as recommended, <30 ng/ml was considered as vitamin D insufficiency and <25 ng/ml was considered vitamin D deficiency.

Results: The mean value of 25(OH)D3 was significantly lower in patients with lupus nephritis (17.1 ± 5.5 ng/ml) and those without lupus nephritis (16.6 ± 5.9 ng/ml) than in controls (36.7 ± 3.3 ng/ml) (p-value 0.001). Serum 25(OH)D3 level was inversely correlated with the duration of SLE disease ($r = -0.676$, p-value <0.001) and with the duration of lupus nephritis ($r = -0.363$, p-value <0.001). There was strong negative correlation between 25(OH)D3 levels and serum urea, creatinine, ANA titre, anti-dsDNA titre, C3 and C4. 25(OH)D3 level was negatively correlated with, ESR, CRP and SLEDAI score ($r = -0.811$, p-value = 0.001). There was also highly significant negative correlation between 25(OH)D3 level and prednisolone dose, hydroxychloroquine, cyclophosphamide and mycophenolate mofetil but not with NSAIDs.

Conclusion: 25(OH)D3 levels are markedly lower in patients with SLE. Low 25(OH)D3 levels are significantly correlated with disease activity parameters, disease duration and disease treatment.

REFERENCES

- [1] Mok CC. Emerging biological therapies for systemic lupus erythematosus. *Expert Opin Emerg Drugs*. 2014;19(2):303–22.
- [2] Yeap SS, Othman AZ, Zain AA, Chan SP. Vitamin D levels: its relationship to bone mineral density response and disease activity in premenopausal Malaysian systemic lupus erythematosus patients on corticosteroids. *Int J Rheum Dis*. 2012;15(1):17–24.
- [3] Borges MC, Martini LA, Rogero MM. Current perspectives on vitamin D, immune system, and chronic diseases. *Nutrition*. 2011;27(4):399–404.

Figure 1. Level of serum 25(OH)D3 in patients with SLE and controls:

(a) Correlation between Anti-dsDNA with Vit. D level.

(b) Correlation between SLEDAI with Vit. D level.

Figure 2. Correlation between 25(OH)D3 levels and SLEDAI and anti-ds DNA

Table 1. 25(OH)D3 levels and SLEDAI in patients with and without lupus nephritis

SLEDAI grade	25(OH)D3 level				P- value
	WITHOUT LUPUS NEPHRITIS		LUPUS NEPHRITIS		
	<30	≥30	<30	≥30	
Mild (1-5)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0.001**
Moderate (6-12)	4(100.0%)	0(0.0%)	69(98.6%)	1(1.4%)	
Severe (13-20)	94(97.9%)	2(2.1%)	30(100.0%)	0(0.0%)	

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.158

AB0553

STUDY OF ANXIETY AND DEPRESSION IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

Marta Rojas-Giménez¹, Stack John², James Galloway², Natalia Mena-Vázquez¹, Clara Fuego-Varela¹, Antonio Fernandez-Nebro¹. ¹Rheumatology Service of the Regional University Hospital of Malaga (HRUM), Biomedical Research Institute of Malaga (IBIMA), University of Malaga., Malaga, Spain; ²KING'S COLLEGE HOSPITAL NHS FOUNDATION TRUST, London, United Kingdom

Objectives: To study the prevalence of anxiety and depression in a cohort of patients with SLE at King's College Hospital in London, as well as its relationship with characteristics of disease and treatments

Methods: Cross-sectional study of a cohort of patients with SLE. All patients with SLE who had been included in the IMPARTS project (Integrating Mental and Physical healthcare: Research, Training and Services) were recruited between 2012-2016. All patients filled out the following questionnaires on a tablet device: PHQ9 (Patient Health Questionnaire) (Scores of 10 or more have a sensitivity and specificity close to 90% for major depression) and GAD-7 (7-item Generalized Anxiety Disorder) (Scores of 10 or more have a sensitivity and specificity close to 89% and 82% for GAD). Variables: demographic, duration of the disease (months) and the profile of autoantibodies. Previous history of depression or anxiety. SLEDAI, treatments, ESR, CRP, C3 and C4. Statistical analysis: descriptive, bivariate using T-Student and χ^2 .

Table 1

Variables	
Sex (female),n (%)	76 (91.6)
Age (years),median(IQR)	41 (18)
Race,n(%)	
White	12 (14.5)
Black	55 (66.3)
Asiatic	6 (7.2)
Other	10 (12)
Smoker,n(%)	13 (15.6)
Duration of the disease (months),median(IQR)	116 (112)
SLEDAI,median(IQR)	2 (4)
ESR,median(IQR)	25 (42.5)
CRP,median(IQR)	2 (7.32)
ANA,n(%)	82 (98.8)
dsDNA,n(%)	36 (46.8)
Anti-SM,n(%)	37 (44.6)
AntiRNP,n(%)	41 (49.4)
Anti-SSA 52 kD,n(%)	18 (26.9)
Anti-SSA 60 kD,n(%)	29 (43.3)
Anti-SSB,n(%)	14 (16.9)
Anti cardiolipin,n(%)	17 (20.5)
Anticoagulate lúpico,n(%)	7 (8.4)
Anti Beta-2-gicoproteina,n(%)	1 (1.2)
Treatments	n (%)
HCQ	83 (64.3)
MTX	9 (10.8)
AZA	11 (13.3)
CF	1 (1.2)
Micofenolic acid	25 (30.1)
Steroids	41 (49.4)
Rituximab	3 (3.6)
Mepacrine	3 (3.6)

Results: A total of 129 patients with SLE were included. Clinical characteristics in Table 1. 38 patients (29.5%) had some degree of major depression and 27 (20.9%) generalized anxiety disorder (Table 2). The prevalence of major depression was higher in patients with anti RO52 (42.3% vs 23.8%, $p=0.06$), with generalized anxiety (81.5% vs 15.7%, $p<0.001$) and in patients with black (35.2% vs 17.1%, $p=0.03$). The prevalence of generalized anxiety was higher in smokers (35% vs 18.3%, $p=0.09$), patients receiving antidepressant treatment (57.1% vs 13.9%, $p<0.001$) and patients taking azathioprine (36.8% vs 18.2%, $p=0.06$). The prevalence of both major was higher in those who had higher fatigue and VAS higher (mean 67.1 vs 44.8 and 60.8 vs 32.3 in major depression, respectively; $p<0.001$) (65.3 vs 48.1 and 60.74 vs 35.4 in generalized anxiety respectively, $p<0.001$). The SLEDAI, ESR, duration of the disease and age were associated with generalized anxiety in a non-significant way. CRP, ESR and the duration of the disease were higher in patients with major depression.

Table 2

Variables	n (%)
Previous depression	23 (17.8)
Antidepressants	17 (13.2)
GAD 7 total	
>15: Severe Anxiety Disorder	20 (15.5)
>10: Moderate Anxiety Disorder	7 (5.4)
>5: Mild anxiety disorder	12 (9.3)
PHQ 9 total	
>20: Severe major depression	11 (8.5)
>15: Moderately Severe Depression	20 (15.5)
>10: Moderate major depression	7 (5.4)
>5: Mild depression	7 (5.4)

Conclusion: The prevalence of anxiety and depression in our group of patients was high, both related, as well as with the perception of pain and fatigue. A correct assessment of these manifestations and early treatment could help improve the quality of life of patients.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.5022

AB0554

RISK OF CORONARY ARTERY DISEASE AND STROKE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS USING JAPANESE HEALTH INSURANCE DATABASE

Ryoko Sakai, Suguru Honda, Sho Suzuki, Masako Majima, Naoko Konda, Hideto Takada, Masayoshi Harigai, Hisashi Yamanaka. Tokyo Women's Medical University, 1. Department of Rheumatology, Tokyo, Japan

Background: Patients with systemic lupus erythematosus (SLE) have higher risk of coronary artery disease (CAD) and stroke than the general population¹⁻². Because these comorbidities influence on patients' vital prognosis and quality of life, it is essential for rheumatologists to manage them appropriately. Considering differences in life style and ethnicity, it is of great interest and needed to investigate risk of these comorbidities in Asia. However, to date, such evidence is scarce.

Objectives: To estimate incidence rate (IR) and identify risk factors of CAD and stroke in patients with SLE using a Japanese health insurance database.

Methods: This retrospective longitudinal population-based study was conducted using claims data provided by Medical Data Vision Co., Ltd (Tokyo, Japan). We defined individuals as SLE cases if they met all of the following: 1) had at least one ICD10 code (M321 or M329); 2) had at least one prescription of oral corticosteroids (CS), methylprednisolone (mPSL) pulse therapy, immunosuppressive drugs (IS) (azathioprine, mizoribine, tacrolimus, mycophenolate mofetil, cyclophosphamide, methotrexate), biologics (belimumab, rituximab) or hydroxychloroquine between April 2008 and July 2017; 3) were 16 years old or over. The start of observation was defined by the first month in which cases met all of the above criteria. Patients were followed until the earliest of date of first CAD event or stroke, date of loss of follow-up, or the end of follow-up (June 2018). CAD and stroke were defined as follows: for CAD, at least one ICD10 code (I20.x or I21.x or I23-24.x) and either percutaneous coronary intervention, coronary artery bypass procedure, or thrombolytic agents during hospitalization; for stroke, at least one ICD10 code (I60-62.x or I63-64.x) and either cerebrovascular procedures, thrombolytic agents, or antiplatelet drugs during hospitalization. Patients were excluded if they had a previous diagnosis of CAD or stroke and were prescribed antiplatelet drugs or anticoagulants during the first 3 months. We defined baseline characteristics using the data from the first 3 months, and calculated IR and adjusted hazard ratio (HR) of risk factors for CAD or stroke after adjusting for baseline characteristics using a Cox proportional hazard model.

Results: In this study, 19,138 cases were included. The median age was 53 years and 81.3% were female. Median observation period was 3.1 years. IR [95% CI]/1,000 patient-years (PY) of CAD or stroke was 1.41 [1.11-1.77] and 4.10 [3.56-4.70], respectively. IR of any CAD or stroke was increased age-dependently (2.06 [1.47-2.80] for 16-39 years-old, 5.07 [4.36-5.86] for 40-69, 13.0 [10.9-15.5] for 70+). Adjusted HR [95% CI] was 1.37 [95% CI, 1.27-1.47] for age by decade, 3.34 [1.78-6.28] for CS use, 1.46 [1.16-1.84] for presence of hypertension (HT), 1.38 [1.04-1.85] for diabetes mellitus (DM), 1.73 [1.25-2.38] for chronic kidney disease (CKD), and 1.95 [1.15-3.32] for atrial fibrillation (AF).

Conclusion: This is the first study investigating the risk of CAD or stroke in Japanese patients with SLE using a large health insurance database. Older age, use of CS, and presence of HT, DM, CKD, and AF were identified as significant risk factors of these comorbidities.

REFERENCES

- Am J Cardiol. 2004;198-200
- Arthritis Rheum 2009;1396-1402

Disclosure of Interests: Ryoko Sakai Grant/research support from: Tokyo Women's Medical University (TWMU) has received unrestricted research grants for

Division of Epidemiology and Pharmacoepidemiology of Rheumatic Diseases from Ayumi Pharmaceutical Co. Ltd., Bristol Meyers Squibb, Chugai Pharmaceutical Co. Ltd., Nippon Kayaku Co. Ltd., Taisho Toyama Pharmaceutical Co. Ltd., Mitsubishi Tanabe Pharma Corp., and with which TWMU paid the salary of R.S. RS has received a research grant from Bristol-Meyers Squibb., Suguru Honda: None declared, Sho Suzuki: None declared, masako majima: None declared, naoko konda: None declared, hideto takada: None declared, masayoshi harigai Grant/research support from: Tokyo Women's Medical University (TWMU) has received unrestricted research grants for