

**Investigation of the Association Between Carotid Artery Intima-Media Thickness (IMT) and Cardiac Risk Factors in Patients with Systemic Lupus Erythematosus**

Zahra Rezaieyazdi ³, Sima Sedighi ², Masoumeh Salari ¹, Mohammadreza H Fard ¹, Mahmoud R Azarpazhooh ³, Peyman S Tabrizi ¹, Jalil T Afshari ⁴, Masoud Saghafi ¹

Affiliations

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**Abstract**

**Background:** The relationship between SLE and traditional risk factors for cardiovascular events was evaluated.

**Methods:** The data regarding sixty patients with SLE and 30 healthy controls (age and sex matched) were gathered using SLEDAl forms. Venous blood (10mL) from all the participants was examined for hs-CRP, homocysteine, VCAM1, CBC, anti-DNA antibody, C3, C4, low-density lipoprotein (LDL), cholesterol, FBS and triglyceride. The IMT of carotid arteries was determined bilaterally by ultrasound. Other measurements included insulin levels via Elisa (Linco/Millipore Corp) and the HOMA-IR index for insulin resistance.

**Results:** The mean age (in years) in the test and control groups was 28.8±10.3 (18-52) and 33.8±9.13 (18-48), respectively. The average IMT in the test group was directly related to serum levels of VCAM1 (p<0.001), homocysteine (p<0.001), cholesterol (p<0.009), LDL (p<0.001), TG (p<0.001), and FPG (p=0.004). The association between other risk factors, insulin resistance, carotid IMT and SLEDAl, was nonexistent. Mean insulin and insulin resistance levels in all the participants were 0.43±2.06 µU/mL and 0.09±0.44, respectively. There was no significant difference between the test and control groups regarding serum insulin and insulin resistance levels (p=0.42 and p=0.9, respectively). None of the risk factors, such as hsCRP, VCAM1, or homocysteine, were shown to be related to insulin resistance (p=0.6, p=0.6, p=0.09, respectively).

**Conclusion:** Our findings did not show an increase in the prevalence of atherosclerosis in patients with SLE. There was no association between IMT and insulin resistance. However, the former was associated with FPG, total cholesterol, LDL, TG, homocysteine and VCAM1.

**Keywords:** Intima-media thickness; SLEDAl; VCAM1; cholesterol; homocysteine; systemic lupus erythematosus.

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