Title:

Serum ferritin, transferrin and metabolic syndrome are risk factors for subclinical atherosclerosis in Egyptian women with systemic lupus erythematosus (SLE).

Abstract:

Aim of the work: This work aimed to measure serum ferritin and transferrin levels and to study thepresence of metabolic syndrome (MetS) in Egyptian systemic lupus erythematosus (SLE) females andto correlate them with disease activity, damage, clinical status and subclinical atherosclerosis.*Patients and methods:* The study included 50 SLE female patients and 25 matched control. SLE diseaseactivity index (SLEDAI) and damage index (DI) were assessed and the presence of MetS determined.Serum ferritin was measured by enhanced chemi-luminescence and the carotid intima-media thickness(cIMT) was assessed by B-mode ultrasound.*Results:* The mean cIMT (0.71 ± 0.14 mm) and ferritin (2098 ± 132.99 ng/ml) were significantly higher inpatients compared to controls (0.62 ± 0.05 mm and 71.7 ± 18.7 ng/ml; $p = 0.003$ and $p < 0.001$, respectivel 28 %of patients and 12% controls had MetS. 6(12%) had a thickened cIMT (0.8 mm), 3 of themhad atherosclerotic plaques (1.3mm). The cIMT significantly correlated ($p < 0.05$) with age ($r = 0.54$), disease duration ($r = 0.55$), SLEDAI ($r = 0.37$), DI ($r = 0.52$), ferritin ($r = 0.31$), cholesterol ($r = 0.32$), triglycerides ($r = 0.7$), fasting blood sugar ($r = 0.72$), systolic ($r = 0.68$) and diastolic ($r = 0.7$) blood pressure andnegatively with transferrin ($r = 0$.low ($r = 0.32$) (and high-density lipoprotein ($r = 0.53$) and C3($r = 0.66$).Patients with MetS had significantly higher cIMT (0.9 ± 0.3 mm) versus those without (0.1± 0.64mm) ($p<0.0001$). *Conclusion:*MetS in SLE is a associated with accelerated atherosclerosis while serum ferritin and transferrinare strong indicators of SLE activity and damage. Considering the association with MetS and measuringthe cIMT in SLE patients is recommended and provides a useful marker for detecting subclinicalcases and predicting future cardiovascular events