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Plasma myeloperoxidase levels are inversely associated with future piHDL formation in women with SLE

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Background. SLE patients have increased atherosclerosis that is not adequately explained. We previously discovered that pro-inflammatory HDL (piHDL) associate with the presence and progression of carotid plaque in SLE. Although HDL function is stable over months, it is unknown whether piHDL is stable over years, and it is also unknown what features predict future HDL function in SLE. Myeloperoxidase (MPO) is an enzyme that has been implicated in oxidation, inflammation, and the generation of piHDL in vitro. To determine whether plasma MPO levels might predict future piHDL, we measured HDL function and MPO levels at baseline and at 24-36 month follow-up in a longitudinal cohort of SLE patients.
Methods. 187 female SLE subjects were studied. Plasma MPO was measured at baseline using ELISA, and HDL function was measured at baseline and follow-up as previously described (Arthritis Rheum 2006 PMID 16868975).
Results. 68% of patients with baseline piHDL and 28% with normal HDL function had piHDL at follow-up. Baseline MPO levels were inversely correlated with HDL function at follow-up ($r=-0.31$, $p<0.0001$) but not at baseline. 71% of patients in the lowest 50% of baseline MPO had piHDL at follow-up, compared to 31% in the highest 50% ($p<0.0001$). Using logistic regression to control for traditional cardiac risk and SLE factors and medications, only baseline piHDL (OR 7.1 $p<0.001$) and MPO levels in the lowest 50% (OR 7.0, $p<0.001$) predicted piHDL at follow-up.
Conclusions. In conclusion, plasma MPO levels are significantly and independently inversely associated with future piHDL in patients with SLE.

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Risk factors for osteoporosis and fragility fractures in premenopausal women with Systemic Lupus Erythematosus

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Systemic Lupus Erythematosus (SLE) is associated with osteoporosis (OP) and fragility fractures (FFx). In this work we analyzed the prevalence of OP and FFx in pre-menopausal SLE female patients and the risk factors (RF) associated with their occurrence.
We retrospectively collected epidemiological and clinical data, together with bone mineral density (BMD) values and therapies of patients. Reduced BMD and OP were defined according to the World Health Organization. Only FFx occurred after the onset of SLE and unrelated to trauma were registered. With univariate and multivariate analysis we studied the associations of OP and FFx with possible RF.
From an initial cohort of 186 SLE patients, men and post-menopausal women were excluded. The remaining 114 women (mean age 39.1±8.6 years, mean disease duration 13.4±8 years) were analyzed. Forty-one (36%) had a reduced BMD and 18 (15.8%) had OP; 6 (5.3%) of them had at least one FFx. Univariate analysis showed a correlation between OP and age, GC, chronic renal failure (CRF), therapy with antiepileptic drugs (AED) and with anticoagulants (AC) ($p<0.04$) and between FFx and age, total amount of GC, AEDs and AC ($p<0.03$). At the multivariate analysis AEDs remained an independent predictor for OP ($p<0.05$), while AC showed a tendency to predict FFx occurrence (p 0.07).
More than one third of premenopausal women with SLE showed a reduced BMD; almost half of these had developed OP and about 15% of them had already experienced one or more FFx. Together with traditional RF, AEDs or AC could predispose to them.

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Plasma cytokines and chemokines profile in patients with Systemic Lupus Erythematosus: its potential use as biomarkers of kidney damage

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Introduction. Systemic lupus erythematosus(SLE) is an autoimmune disease in which the innate and adaptive response plays a significant roll, mainly mediated by cytokines. Lupus nephritis -LN-is the most severe complication associated with SLE.
Objective. To identify differential expression of cytokines profiles and circulating chemokines in plasma of SLE patients with different degrees of renal compromise compared to SLE patients without LN, from a reference center in the Colombian Caribbean region.
Methods. This was a case-control study. Plasma samples from 10 patients with NL class-II 10 patients with NL class-III, and 30 patients with NL class-IV were analyzed. As a control plasma from 30 SLE patients without nephritis were used. Plasma samples were analyzed using the Luminex technology of 38 analytes (EGF, Eotaxin, FGF-2, Flt-3 ligand, Fractalkine, G-CSF, GM-CSF, GRO, IFN-α2, IFN -γ, IL-10, IL-12 (p40), IL -12(p70), IL-13, IL-15, IL-17, IL-1Rα, IL-1α, IL-1β, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IP-10, MCP-1, MCP-3, MDC (CCL22), MIP-1α, MIP-1β, TGF-α, TNF-α, TNF-β, VEGF, sCD40L, RIL-2Ra) using MILLIPLEX®-MAP-Human Cytokine/Chemokine-Magnetic-Bead-Panel-Premixed 39 Plex.
Results. Significant differences($p<0.05$) was found between concentrations of cytokines EGF, G-CSF, GM-CSF, GRO, IFN, IL4, IL8, IP10, MCP, MDC, MIP.1a, sIL2Ra,TNFb when SLE-patients with LN vs SLE-patients without LN were compared.
Conclusion. These preliminary data suggest that there are differences in the LN plasma patients level of some chemokines and proinflamatory cytokines. Results support the hypothesis that circulating levels in plasma samples of these molecules may be considered, in future, as a damage biomarkers in LN of SLE patients.

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Prognosis, Survival and Renal Function in Patients with Lupus Nephritis

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Introduction. Lupus nephritis is the most common glomerulonephritis in the Colombian Caribbean region, despite there is less published information about its evolution and clínico-pathotogical aspects
Objective. To evaluate prognosis, survival and renal function of patients with LN residing in the Colombian Caribbean region controlled between 2008-2014.
Methodology. 229 patient study with LN corroborated by histology according to the International Society of Nephrology Clasification /Renal Pathology Society (ISN/ RPS. 2003) treated with induction and maintenance therapy and with a systemized following of at least 2 years. The pharmacological treatments included prednisolone, azathioprine, and Cyclophosphamide mycophenolate mofetil in isolation or combined and the clinical laboratory and histopathology variables were correlated as predictive value of therapeutic response. To achieve this as methodology a non-parametric descriptive statistics ANOVA (k-w) was used and canonical correspondence analysis
Results. 229 patients in total of 34±12 of age, which 88% women, whose evolution were controlled during 24±6 months. The most common form of clinical presentation was nephrotic syndrome and asymptomatic hematuria-proteinuria (68.07%) the type III and IV of LN (84,23%) were associated with patients under 25 of age and a negative response to treatment. The estimated glomerular filtration rate measured by MDRD4 showed a significant improvement at 24 weeks with regard the baseline figure of 74,36
Conclusion. The early detection and reference of NL patients allows an early approach and therapy. Which will prevent chronic kidney disease.