SNPs genotyping TaqMAN technology and we respected the Hardy-Weinberg equilibrium.

Results First, we analyzed the allele frequency of NOS2 and VEGF genes SNPs and we obtained for:

NOS2 gene that rs2779248 T allele is associated to SLE's development (OR 1.92) as well as rs2779251 T (OR 2.01) and rs8078340 A alleles (OR 5.00) unlike rs2779248 C, rs2779251 G and rs8078340 G alleles that are protective against SLE development (OR 0.52, 0.50 and 0.20).

VEGF gene that rs2010963 C allele is associated SLE's development (OR 1.86) unlike rs2010963 G allele that is protective (OR 0.54).

Thereafter, we analyzed the genotype frequency and we got for:

NOS2 gene that rs2779248 CT genotype is associated to SLE's development (OR 2.01) as well as rs2779251 GG (OR 1.62) and rs8078340 AA genotypes (OR 3.41) inversely to rs2779248 CC, rs2779251 TT and rs8078340 GG genotypes that are protective (OR 0.35, 0.24 and 0.20).

VEGF gene that rs1570360 GG genotype is associated to SLE's development (OR 1.73) as well as rs2010963 CC genotype (OR 2.91) unlike rs1570360 AG and rs2010963 GG genotypes that are protective (OR 0.51 and 0.58).

Furthermore, we observed that the VEGF rs1570360 G allele was assiociated to lupus nephritis development (OR 3.51) as well as GG genotype (OR 3.82). Regarding the haplotype analysis, it showed for the NOS2 gene that AGG haplotype is associated to SLE's development (OR 2.12) and that CGG is protective (OR 0.50). Finally, as a whole, our results are consistent with the literature data.

Conclusions At the end of our study, we have demonstrated the role the NOS2 and VEGF genes SNPs in the genetic susceptibility to develop SLE in Algerian patients.

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120 METFORMIN ENHANCES ANTI-INFLAMMATORY EFFECTS OF ADIPOSE-DERIVED MESENCHYMAL STEM CELLS: THERAPEUTIC POTENTIAL OF METFORMIN-TREATED AD-MSCS IN ANIMAL MODEL OF LUPUS

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Background Metformin is originally introduced as a biguanide antidiabetic medication, has an anti-inflammatory effect via activating AMP-activated protein kinase (AMPK). Human adipose-derived stem cells (Ad-MSCs) are stromal cells derived from adipose tissue and known to have immunoregulatory activity. The study was undertaken to examine whether metformin-treated Ad-MSCs show more potent therapeutic effect in animal model of lupus and to clarify the underlying mechanism of potent immunoregulatory impact of metformin-treated Ad-MSCs.

Methods To examine the effects of metformin, Ad-MSCs were incubated for 72 hour in the presence of metformin. Cellular phenotype of Ad-MSCs was analyzed by flow cytometry. Indoleamine 2,3-dioxygenase, IL-10 and TGF-1 expression was analyzed by real-time PCR and ELISA. AMPK-mTOR pathway was analyzed by Western blotting in Ad-MSCs with or without metformin. MRL/lpr mice weekly injected $1\times10^{\wedge}6$ metformin-treated Ad-MSCs in 0.1 ml PBS to lateral tail vein for 7 weeks. All mice were sacrificed at the age of 16 weeks. Urinary albumin-to-creatinine ratios were then calculated. The amount of anti-dsDNA IgG antibody in mice sera was measured by ELISA. PAS stained kidney sections were used for assessment of histology. Deposition of IgG and C3 was detected by confocal microscope. Population of cellular subset in spleen, kidney and blood was analyzed by Flow cytometry.

Results *In vitro*, metformin-treated Ad-MSCs increased mRNA level of IDO, IL-10 and TGF-1 compared with untreated Ad-MSCs. Also, the concentrations of IDO, IL-10 and TGF- increased in culture supernatants. Metformin upregulated expression of p-AMPK and inhibited the expression of p-STAT3, p-mTOR, and p-Raptor in Ad-MSCs. Intravenously injected metformin-treated Ad-MSCs significantly reduced the splenomegaly and lymphadenopathy compared with untreated Ad-MSCs in MRL/lpr mice. In addition, Metformin-treated Ad-MSCs decreased anti-dsDNA antibodies in serum and proteinuria compared with untreated Ad-MSCs. Metformin-treated Ad-MSCs alleviated lupus nephritis, as judged by changes in the histopathology scores and immune complex deposition. Metformin-treated Ad-MSCs reduced CD90.2+T cells, CD90.2+CD4 CD8- (double negative) T cells, whereas CD4 +CD25+Foxp3 +Treg cells were increased in splenocytes, kidney tissue and blood cells of MRL/lpr mice.

Conclusions Metformin can optimize the immunomodulatory potential of Ad-MSCs, suggesting a promising strategy of MSC use in lupus treatment.

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121 COMPARISON OF CLINICAL AND LABORATORY PROFILES IN 3575 SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS WITH AND WITHOUT SJÖGRENS SYNDROME: DATA FROM THE SPANISH SOCIETY FOR RHEUMATOLOGY LUPUS REGISTRY

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Background The clinical coexistence of Systemic Lupus Erythematosus (SLE) and Sjögrens Syndrome (SS) was recognized in 1959. The prevalence of SS among patients with SLE varies considerably among the published studies (10%–30%). There is still controversy as to whether or not SLE patients with overlapping SS have a distinct and significantly milder lupus. To address the clinical and serologic features of SLE and differences from SLE that occurs in overlap with SS.

Methods This is a multicenter, descriptive, cross-sectional study of 3575 patients from the Spanish Society for Rheumatology Lupus Registry (RELESSER). Unselected SLE patients from 45 Rheumatology Departments across Spain were evaluated for