childhood ages. At age 13 years the HR was 1.12 (95% CI: 1.01–1.23) per height z-score and HRs were similar across all ages.

Conclusions These findings of positive associations between childhood BMI and height and SLE risk suggest that early life factors may be important in the etiology of SLE.

Funding Source(s): University of Copenhagen Fund for Medical Students and University of Copenhagen, Faculty of Health and Medical Sciences Fund, Gigtforeningen.

117 ACUTE INFLAMMATORY DEMYELINATING POLYNEUROPATHY AS A PRIMARY MANIFESTATION OF LUPUS IN A PREGNANT PATIENT A RARE AND AN ATYPICAL PRESENTATION

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Background Systemic lupus erythematosus (SLE) is associated with several neuropsychiatric syndromes involving both the central and peripheral nervous systems. These syndromes are related with SLE progression and thus, are rarely present at the onset of disease. We are reporting a rare case of acute inflammatory demyelinating polyneuropathy (AIDP) as the first manifestation of SLE in a previously asymptomatic patient.

Methods Not applicable as it is a clinical vignette

The abstract for clinical vignette is uploaded as a separate document

Results Not applicable as it is a clinical vignette

The abstract for clinical vignette is uploaded as a separate document

Conclusions Symptoms of AIDP frequently start in lower extremities, yet in about 10% of patients, arm or facial muscle weakness can be the initial presentation. CSF analysis typically revealed an elevated protein with a normal white cell count; however, a normal CSF protein is observed in one-third to one-half of patients when tested early in the disease course. Our patient had upper extremity weakness as well as initial negative CSF findings, which led to the delay in diagnosis. It is imperative to have a sound knowledge of the typical as well as atypical neurological manifestations of SLE to reduce the morbidity and mortality rate of patients.

Funding Source(s): None

118 GRANZYME B PRODUCING B CELLS IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS AND LUPUS-LIKE MOUSE MODELS

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Background Systemic lupus erythematosus (SLE) is a chronic and systemic autoimmune disease, which is accompanied by abnormal activation of T/B lymphocytes, multiple autoantibodies and immune complex deposition. Granzyme B producing (GrB+) B cells are a group of new regulatory B cell subsets, which can participate in the pathogenesis of autoimmune disease, but its role in SLE is not clear. In this study, we investigate the expression level of Granzyme B producing B cells in SLE patients and lupus-like mouse models.

Methods 1. Patients with SLE (n=7) meeting 1997 American College of Rheumatology revised criteria were enrolled from the Department of Rheumatology and Immunology. 15 healthy individual samples were obtained from physical examination center in our hospital. We collected 4 mL peripheral anticoagulant blood from both groups and peripheral blood mononuclear cells were isolated. The proportion of GrB +B cells in PBMC was identified by flow cytometry. 2. A lupus-like mouse model induced by transfer of spleen cells from bm12 mice was constructed. Two wildtype C57BL/c mice and two lupus-like mouse models (both 68 weeks old mice) were sacrificed by CO_2anesthesia. The spleens of the mice were aseptically isolated, and the spleen single cells were obtained after grinding the tissues. The ratio of GrB +Breg cells in the spleen cells of the two groups was detected by flow cytometry (FACS). 3. SPSS24.0 software was used for statistical analysis, and $p<0.05$ was considered statistically significant

Results 1. Using flow cytometry 7AAD label excludes dead cells, CD3 marker excludes T lymphocytes and CD56 markers exclude NK cells. After CD14 labeling excludes monocytes/macrophages, the proportion of GrB +Breg cells in peripheral blood of healthy controls was 7.52%; Compared with healthy controls, the proportion of GrB +Breg cells in peripheral blood of SLE patients (4.45%) showed a significant downward trend. 2. Compared with the wild type control mice, the proportion of GrB +Breg cells in the spleen cells of lupus mouse model (2.14%) showed a significant downward trend.

Conclusions The proportion of GrB +Breg cells in the peripheral blood of SLE patients and the spleen cells of lupus-like mouse models showed a downward trend, which may be related to the pathogenesis of SLE, but the exact role remains to be further verified.

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119 NO-SYNTHASE INDUCTIBLE-2 (NOS2) AND VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) POLYMORPHISMS IN SYSTEMIC LUPUS ERYTHEMATOSUS AMONG ALGERIAN PATIENTS

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Background The development of Systemic Lupus Erythematosus (SLE) depends inter alia on genetic factors including genes involved in oxidative stress and angiogenesis as NOS2 and VEGF. The aim of our study is to evaluate the Single Nucleotide Polymorphisms (SNPs) influence of NOS2 gene (rs2779248, rs2779251 and rs8078340) and VEGF gene (rs1570360 and rs2010963) on SLE development in Algerian patients.

Methods This is a case-control study of 157 SLE patients (age: 37±2 years, sex ratio: 1: 10, disease duration: 7.6±4.3 years, SLEDAI: 7.3±6.1) and 173 healthy controls (age: 28±9 years, sex ratio: 1: 7). We performed NOS2 and VEGF genes

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.

Funding Source(s): Pasteur Institute of Algeria

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.

Funding Source(s): None

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