switched memory B cells ($CD19^+CD27^+IgD^-$). But SLAMF6 expressions of B cell subsets were not correlated with disease activity.
**Conclusions:** Surface expression of SLAMF6 was increased in cTfh cells in patients of SLE and had correlation with disease activity.
**References:**
[4] T cells indicate Tfh cell activity and promote antibody responses upon antigen reexposure. Immunity. 2013;17;39(4):770–81.
[1] Choi JY, His-enHo J, Pasoto SG, et al. Circulating follicular helper-like T cells in systemic lupus erythematosus: association with disease activity. Arthritis Rheumatol. 2015;67(4):988–99.
[2] Zhang X, Lindwall E, Gauthier C, et al. Circulating CXCR5+CD4+helper T cells in systemic lupus erythematosus patients share phenotypic properties with germinal center follicular helper T cells and promote antibody production. Lupus. 2015;24(9):909–17.
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## Innate immunity in rheumatic diseases

### AB0021 HUMAN T CELL LEUKEMIA VIRUS TYPE 1 (HTLV-1) EXACERBATES RHEUMATOID ARTHRITIS; EXOSOMES AND IFN-GAMMA DERIVED FROM HTLV-1 INFECTED CELLS ENHANCE THE INFLAMMATORY RESPONSE OF RHEUMATOID ARTHRITIS SYNOVIAL FIBROBLASTS VIA PATTERN RECOGNITION RECEPTOR, RIG-I

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**Background:** Human T cell leukemia type 1 (HTLV-1) positive rheumatoid arthritis (RA) patients show severe inflammatory state and resistance to anti-rheumatic therapy, including biologic agents (1). HTLV-1 infected T cells was increased in the synovial fluid and tissue from an HTLV-1 positive RA patients (2). However the mechanism of worsening RA by HTLV-1 infection remains unclear. We focused on the role of HTLV-1 infected T cells as a key player in the exacerbation of RA.
**Objectives:** To clarify the role of HTLV-1 infected T cells in the pathogenesis of RA. We investigate inflammatory mediators derived from HTLV-1 infected cells.
**Methods:** Peripheral blood mononuclear cells (PBMCs) were collected from asymptomatic HTLV-1 carriers (AC) (n=5) and healthy subjects (HS) (n=5). Rheumatoid arthritis synovial fibroblasts (RASFs) were co-cultured with PBMCs for 5 days. Cytokine profiles of supernatants were analyzed by multiplex. Exosomes were isolated and purified from cultured medium of HTLV-1 infected cell line (MT2). RASF was cultured with MT2 derived exosomes with and without IFN-gamma for 24hours. Total RNA was extracted using TRIZOL method. The expression of RIG-I, IL-6, CXCL10, and CCL5 mRNA in RASF was measured using real-time quantitative PCR. The expression of pattern recognition receptor, RIG-I was determined by immune blotting. Silencing of RIG-I in RASF was performed by transfection of siRNA against RIG-I.
**Results:** The levels of cytokine, including IFN-gamma, IL-2, IL-9, IL-13, IL-6, and CCL20, were higher in supernatants co-cultured with HTLV-1 positive PBMCs than in those of negative PBMC ($p<0.05$). The expression of CXCL10 and IL-6 mRNA was increased in RASF co-cultured with HTLV-1 positive PBMCs compared to those of negative PBMCs. IFN-gamma is well known to be an important cytokine in the pathogenesis of HTLV-1 associated inflammatory diseases. IFN-gamma induced the expression of IL-6, CCL5, and CXCL10 mRNA in RASF. HTLV-1 infected cell line, MT2, autonomously released a large amount of exosomes which contain nucleic acids such as RNA and DNA. MT2 derived exosomes significantly enhanced the expression of CXCL10 mRNA, but not IL-6 and CCL5, in RASF activated by IFN-gamma. Therefore, we hypothesized that exosomes play the role of ligand for pattern recognition receptors. IFN-gamma increased the expression of RIG-I protein in RASF in a dose-dependent manner. The expression of RIG-I protein also increased in RASF co-cultured with HTLV-1 positive PBMCs compared to those of negative PBMCs. Finally, the silencing of RIG-I suppressed the expression of CXCL10 in RASF induced by co-stimulation of both exosomes and IFN-gamma.
**Conclusions:** It is possible that HTLV-1 infected T cells exacerbate the inflammatory responses of RASFs. Exosomes derived from HTLV-1 infected cells enhance the expression of CXCL10 in RASF induced by IFN-gamma via pattern recognition receptor, RIG-I.
**References:**
[1] Umekita K, et al. Arthritis Care Res (Hoboken). 2014 May;66(5):788–92.
[2] Yakova M, et al. Retrovirology. 2005 Feb 1;2:4.
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### AB0022 CYTOTOXIC PROFILE CHARACTERIZATION OF NK AND NKT CELLS IN PATIENTS WITH BEHÇET DISEASE

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**Background:** Behçhet disease (BD) is a rare inflammatory small vessel vasculitis. It is a chronic systemic disorder with multiorgan damage and various clinical manifestations such as oral ulcers, genital ulcers and uveitis. Etiology is still unknown. Some gene polymorphisms have been associated with BD [1]. In addition, a high frequency of circulating Natural Killer T cells (NKT cells) has been found in BD patients respect to patients with other inflammatory uveitis such as Vogt-Koyanagi-Harada disease (VKH) [2].
**Objectives:** The objective of this study was to characterize the cytotoxic profile of circulating Nautral Killer (NK) and NKT cells in BD patients.
**Methods:** Peripheral Blood Mononuclear Cells (PBMCs) were collected from 23 BD patients (according to 1990 ISGB criteria), 7 VKH patients (according to 2001 Revised Diagnostic Criteria) and 9 healthy subjects [3,4]. BD activity was evaluated with BD Current Activity Form 2003. Anti-CD56 and anti-CD3 antibodies were used to identify NK ($CD56^+CD3^-$) and NKT ($CD56^+CD3^+$) cells by flow-cytometry. Expression of one inhibiting receptor (NKG2A) and five activating receptors (CD16, CD69, NKG2D, Nkp30 and Nkp46) was determined on the surface of NK and NKT cells. Cytotoxic potential of NK and NKT cells was assessed through incubation of PBMCs with K526 cells in presence or absence of IL-15 followed by flow-cytometry detection of the surface marker CD107a on NK and NKT cells [5].
**Results:** A higher frequency of NKT cells was detected in peripheral blood of BD patients than VKH patients. Compared to healthy subjects, an increased proportion of CD16 positive NKT cells was found in BD patients. Furthermore it was observed a higher percentage of NKG2D positive cells in both NK and NKT lymphocytes. No difference in the other markers was detected. In BD patients, the incubation of PBMCs with K562 cells in absence of IL-15 induced a higher percentage of NK cells expressing CD107a compared to VKH patients. Frequency of CD107a positive NKT cells was $<1\%$ and similar between groups. Finally, no differences were found between BD patients with active and inactive phase of the disease.
**Conclusions:** Our study confirms previous reports about an increased level of NKT cells in peripheral blood of BD patients, but we additionally identified a cytotoxic profile of NK and NKT cells characteristic of BD patients when compared to healthy subjects and patients with VKH. Our data revealed for the first time a potential involvement of NKG2D in the pathogenesis of BD. We can speculate that NK and NKT cells of BD patients are more prone to respond to stress/danger signals when exposed on target cells leading to cyclic auto-inflammation.
**References:**
[1] Ombrello MJ. Et al. Proc Natl Acad Sci U S A. 2014, 111:8867–72.
[2] Hamzaoui K. et al. J Neuroimmunol. 2006, 175:160–8.
[3] International Study Group for Behçet's Disease. Lancet 1990, 335:1078–80.
[4] Read RW. et al. Am J Ophtalmol. 2001, 131:647–52.
[5] Alter G. et al. J Immunol Methods. 2004, 294:15–22.
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### AB0023 ASSOCIATION BETWEEN MEX-SLEDAI AND INFECTIONS WITH MBL STRUCTURAL AND PROMOTER GENOTYPES IN MEXICAN-MESTIZO PATIENTS

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**Background:** The mannose-binding lectin protein (MBL) is a multimeric molecule with a structure that is the analogue to the C1q protein. Deficient and low MBL concentrations in serum are due to the presence of mutations in the structural or promoter region
**Objectives:** To investigate the role of alleles and haplotypes of MBL2 gene in the clinical expression of systemic lupus erythematosus (SLE) and its association with infections in Mexican-mestizo patients.
**Methods:** An observational, cross-sectional, retrospective study. We included 74 SLE patients and 75 matched controls. All $\geq$16 years-old who met at least four 1982 or revised 1997 ACR criteria for SLE were included. The association of MBL locus haplotypes with disease activity and past history of infection was studied in those patients. Allele and haplotype determinations in the promoter and structural regions of the MBL2 gene were performed from genomic DNA isolated peripheral blood. Probes were sent to Invitrogen (Carlsbad, California) for synthesis. The disease activity was determined by MEX-SLEDAI. Infections were categorized arbitrarily if patients had $\geq$4 events. The associations between the codons, clinical activity, and having $\geq$4 infection events were by odds ratio.
**Results:** There were 13/73 (17.8%) SLE patients with $\geq$4 infections. The presence of homozygous C/C codon 57 was observed to be greater risk for SLE activity and