ISSN 0014-2980 · EJIMAF51 (Supplement S1) · Vol.51 · Supplement S1 · August 2021

50th anniversary

European Journal of Immunology

Supplement S1

www.eji-journal.eu

WILEY

DOI: 10.1002/eji.202170200

European Journal of Immunology

Abstracts of ECI 2021

6th European Congress of Immunology

1-4 September 2021

Virtual meeting

European Journal of Immunology Volume 51, Suppl. 1, August 2021

This abstract book can be searched using the PDF search function to look, for example, for the Abstract number if applicable or author name.

To cite an Abstract, please use the following format:
Abstract title. Authors. Conference: 6th European Congress of Immunology. Abstracts. Location Virtual.
Date September 1-4, 2021. Eur. J. Immunol. 2021. 51, S1, page number(s). Meeting Abstract number [the Abstract number if applicable can be found above the title]

This Abstract book was corrected after online publication on 25 August 2021 by including two Abstracts that were missing from the initial supplied copy

DOI: 10.1002/eji.202170200

ABSTRACT REVIEWERS

The organizers of the 6th European Congress of Immunology would like to extend their special thanks to all abstract reviewers for their contribution and time they dedicated to the success of the congress:

Adriana Narcisa Munteanu	Romania
Ahmet Eken	Turkey
Akif Turna	Turkey
Aleksandra Popov Aleksandrov	Serbia
Alexandra Siorenta	Greece
Alexandra Tsirogianni	Greece
Alisa Gruden-Movsesijan	Serbia
Amiram Ariel	Israel
Andreas Radbruch	Germany
Anita Milicic	United Kingdom
Anna Sediva	Czech Republic
Anne Caignard	France
Arpad Lanyi	Hungary
Arzu L. Aral	Turkey
Aslı Gelincik Akkor	Turkey
Aude Magerus	France
Ayça Sayı Yazgan	Turkey
Ayça Kıykım	Turkey
Ayşegül Atak Yücel	Turkey
Batu Erman	Turkey
Biljana Božić Nedeljković	Serbia
Bojan Polić	Croatia
Carsten Watzl	Germany
Ceren Çıracı	Turkey
Cezmi Akdiş	Switzerland
Danka Grcevic	Croatia
Delphine Sauce	France
Dicle Güç	Turkey
Diana Dudziak	Germany
Diğdem Yöyen Ermiş	Turkey
Djordje Miljkovic	Serbia
Dominik Filipp	Czech Republic
Duygu Sağ	Turkey
Ed Lavelle	Ireland
Edit Buzas	Hungary
Elif Karakoç Aydıner	Turkey
Erika Jensen-Jarolim	Austria
Eva Martinez Caceres	Spain
Eva Untersmayr	Austria
Gerhard Wingender	Turkey
Goran Marjanović	Serbia
Güher Saruhan Direskeneli	Turkey
Günnur Deniz	Turkey
Güneş Esendağlı	Turkey
Haluk Barbaros Oral	Turkey
Haner Direskeneli	Turkey
Hanna Jarva	Finland
Hannes Stockinger	Austria
İhsan Gürsel	Turkey
Iva Hafner Bratkovic	Slovenia
Ivan Pilipović	Serbia
Ivana Stojanovic	Serbia
Ivanka Tsacheva	Bulgaria
Jacques Nunes	France
James Brewer	United Kingdom
Jelena Djokic	Serbia
Jordi Cano Orchando	Spain
Jüergen Wittmann	Germany
Katerina Tarassi	Greece
Kingston Mills	Ireland
Krassimira Todorova	Bulgaria
Krisztina Buzas	Hungary
Lazar Popovıć	Serbia
Luis Graça	Portugal
Luke Foster	United Kingdom
Marcela Vlkova	Czech Republic
Marco A. Cassatella	Italy
Marcos Lopez-Hoyos	Spain
Marieke Van Ham	The Netherlands
Marinela Bostan	Romania
Marta Szell	Hungary
Martin Schwarzer	Czech Republic
Martina Colicchia	United Kingdom
Maxim Nosenko	Russia
Mayda Gürsel	Turkey
Michael Lohoff	Germany
Mira Barda-Saad	Israel
Micha Berger	Israel
Milada Sirova	Czech Republic
Mirjam Heemskerk	The Netherlands
Mirjana Nacka-Aleksić	Serbia
Muhlis Cem Ar	Turkey
Nada Pejnovic	Serbia
Nataša Ilić	Serbia
Nemanja Jovicic	Serbia
Noushine Mossadegh-Keller	France
Peter Heeringa	The Netherlands
Sergej Tomić	Serbia
Serkan Belkaya	Turkey
Silke Appel	Norway
Slavko Mojsilovic	Serbia
Soren Hayrabedyan	Bulgaria
Srdja Janković	Serbia
Sylvia Knapp	Austria
Şefik Alkan	Turkey
Tal Shay	Israel
Tamara Saksida	Serbia
Tanja Džopalić	Serbia
Tolga Sütlü	Turkey
Trevor Owens	Denmark
Uğur Sezerman	Turkey
Wilfried Ellmeier	Austria
Yıldız Camcıoğlu	Turkey
Zimmer Jacques	Luxembourg
Zoltán Prohászka	Hungary
Zsolt Komlosi	Hungary

DOI: 10.1002/eji.202170200

POSTER PRESENTATIONS

P-0951

The populations of peripheral blood T-lymphocytes at different stages of differentiation in patients with Parkinson's disease

Julia Vavilova, Anna Boyko, Maria Grechikhina, Sofya Erokhina, Maria Streltsova, Elena Kovalenko, Alexander Sapozhnikov

Department of Immunology, Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia

Parkinson's disease (PD) is one of the most common neurodegenerative diseases. The mechanisms of PD development are largely associated with the processes of chronic inflammation in the brain tissue (neuroinflammation). The development of neuroinflammation involves the central nervous system's resident immune cells and the cells of the peripheral immune system migrating to the brain. We examined 31 PD patients, 33 old-aged healthy donors (OHD), 30 young healthy donors (YHD). Immunophenotyping was performed using flow cytometry. Was analyzed the populations of T-lymphocytes (CD3+) at different stages of differentiation: replicative senescence (CD56-CD57+), Naïve (CCR7+CD45RA+), Central memory (CM) (CCR7+ CD45RA-), terminally differentiated effector memory (TEMRA) (CCR7- CD45RA+), effector memory (EM) (CCR7- CD45RA-). The proportion of T-lymphocytes (CD3+CD56-) expressing the CD57 marker was lower in the PD group than in the OHD group (8.7 and 13.1, p = 0.02). The proportion of these cells in the group of the YHD was significantly lower than in the group of PD and OHD. There were no significant differences in the naïve, CM, EM, TEMRA populations between patients with PD and OHD in the population of T-lymphocytes (CD3+) at different stages of differentiation. This study demonstrates that the peripheral immune profile in PD is not typical for older donors. We found that there is no replicative senescence of T-cells (CD3+CD56-CD57+). However, in the group of PD and OHD in the population of T-lymphocytes (CD3+) at different stages of differentiation, no differences were found.

Keywords: Ageing, biomarkers, immune senescence, memory

Acknowledgments: The reported study was funded by RFBR, project number 20-315-90072.

P-0952

Severity of allergic rhinitis symptoms is associated with ceruloplasmin levels and a deficiency of microbial strains that sequester iron

Sebastian Alexander Jensen[1], Lisa Marie Petje[1], Tina Bartosik[3], Petra Pjevac[5], Bela Hausmann[4], Karin Hufnagl[1], Gerold Besser[3], Julia Eckl Dorna[3], Sheriene Moussa Afify[6], Claus Georg Krenn[7], Georg Roth[8], Stephan Hann[9], Elisa Rivelles[10], Erika Jensen Jarolim[11], Franziska Roth Walter[2]

[1]*The Interuniversity Messerli Research Institute of the University of Veterinary Medicine Vienna, Medical University Vienna and University Vienna, Vienna, Austria*
[2]*Institute of Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Vienna, Austria*
[3]*Department of Otorhinolaryngology, Head Neck Surgery, Medical University of Vienna, Vienna, Austria*
[4]*Joint Microbiome Facility of the Medical University of Vienna and the University of Vienna, Vienna, Austria*
[5]*University of Vienna, Centre for Microbiology and Environmental Systems Science, Department of Microbiology and Ecosystem Science, Division of Microbial Ecology, Vienna, Austria*
[6]*Laboratory Medicine and Immunology Department, Faculty of Medicine, Menoufia University, Egypt*
[7]*Department of Anesthesiology, General Intensive Care and Pain Medicine, Medical University of Vienna, Vienna, Austria*
[8]*Department of Anesthesiology and Intensive Care, Franziskus Spital, Vienna, Austria*
[9]*Department of Chemistry, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria*
[10]*Department of Laboratory Medicine, Medical University Vienna, Vienna, Austria*
[11]*Biomedical Int. R+D GmbH, Vienna, Austria*

Since allergy is associated with iron deficiency, we sought to determine whether iron and microbial parameters correlate with the clinical response of allergic rhinitis subjects during nasal provocation. Female allergic subjects donated blood, and stool samples before they underwent a graded nasal provocation (n=38) with birch or grass pollen extract. Total nasal symptom scores (TNSS), visual analogue scale (VAS) and weight of nasal fluids were recorded. Complete blood cell counts and iron metabolism markers were determined. Stool samples were subjected to 16S rRNA amplicon sequencing. Serum hepcidin was assessed by ELISA. LegendPlex assay analysis was utilized to define levels of IgE, ceruloplasmin, lipocalin2 and cytokines in nasal fluids. Trace elements in serum and aqueous stool extracts were determined via inductively coupled plasma-mass spectrometry. Nasal and serum ceruloplasmin was the sole protein marker that positively correlated with all assessed symptom parameters (TNSS, VAS and nasal fluid weight), VAS scores in addition correlated with serum transferrin, haptoglobin and nasal IgE-levels. A positive correlation to symptoms was confirmed for serum copper, whereas gut iron and cobalt showed an inverse relationship to clinical symptoms. Particularly members of the order Bacteriodales and members of the genus Ruminococcus seems protective against TNSS and correlate well with the presence of gut iron. For the first time, we show that essential parameters in iron homeostasis, such as the copper-containing ferroxidase ceruloplasmin, correlate with the allergic outcome. Additionally, commensal bacteria sequestering iron seem to play a beneficial role against hay fever in adults.

Keywords: Allergic disorders, drugs for immune modulation, microbiome and environmental factors

P-0953

Overexpression of galectin 3 in pancreatic beta cells amplifies beta cell apoptosis and islet inflammation in type 2 diabetes in mice

Ivica Petrovic[1], Nada Pejnovic[2], Biljana Ljujic[3], Sladjana Pavlovic[4], Marina Miletic Kovacevic[5], Ilija Jeftic[1], Aleksandar Djukic[1], Dragica Selakovic[6], Nevena Draginic[7], Marijana Andjic[7], **Nemanja Jovicic**[5], Miodrag L. Lukic[4]

[1]*Department of Pathophysiology, Faculty of Medical Sciences, University of Kragujevac, Serbia*
[2]*Department of Immunology, Sinisa Stanković Institute for Biological Research, University of Belgrade, Serbia*
[3]*Department of Genetics, Faculty of Medical Sciences, University of Kragujevac, Serbia*
[4]*Center for Molecular Medicine and Stem Cell Research, Faculty of Medical Sciences, University of Kragujevac, Serbia*
[5]*Department of Histology and embryology, Faculty of Medical Sciences, University of Kragujevac, Serbia*
[6]*Department of Physiology, Faculty of Medical Sciences, University of Kragujevac, Serbia*
[7]*Department of Pharmacy, University of Kragujevac, Faculty of Medical Sciences, Kragujevac, Serbia*

During obesity hematopoetic cells-derived galectin 3 induces insulin resistence. While the role of galectin 3 expressed in islet invading immune cells in both type of diabetes has been studied, the importance of expression of this molecule on the target pancreatic beta cells is not defined. We have used 10-12 weeks old C57/BL6 male mice (WT) and C57/ BL6 mice with transgenically enhanced Gal-3 expression in pancreatic β cells (TG). Obesity was induced with 16 weeks high fat diet regime. Pancreatic beta cells were tested for susceptibility to apoptosis induced by non-esterified fatty acids and cytokines as well as parameters of oxidative stress. The overexpression of galectin 3 increases beta cells apoptosis in HFD conditions and increases the percentage of proinflammatory F4/80+ macrophages in islets that express galectin 3 and TLR4. In isolated islets, we have shown that galectin 3 overexpression increases cytokine and palmitate-triggered beta cells apoptosis and also increases NO2- induced oxidative stress of beta cells. Also, in pancreatic lymph nodes, macrophages were shifted towards proinflammatory TNF-α producing phenotype. By complementary approach *in vivo* and *in vitro*, we have shown that galectin 3 overexpression facilitates beta cell damage, enhances cytokine and palmitate-triggered beta cells apoptosis and also increases NO2- induced oxidative stress in beta cells. Further, the results suggest that increased expression of galectin 3 in the pancreatic beta cells affects the metabolism of glucose and glycoregulation in mice on HFD, affecting the fasting glycemic values, as well as glycemia after glucose loading.

Keywords: Animal models, cytokines and mediators, diabetes, effector molecules