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### Scientific Tracks & Sessions July 26, 2018

### Immunology Congress 2018



11<sup>th</sup> Annual Congress on Immunology July 26-28, 2018 | Moscow, Russia



July 26-28, 2018 | Moscow, Russia

### Importance of rotativity of Etanercepte administration sites for good clinical response to treatment

Patricia Fabrini, M Araujo and L C Teixeira Santhè Clinic, Brazil

The present work aims to demonstrate the importance of the rotation of the injection sites to maintain the response to treatment with Etarnecept, an immunobiological drug with anti TNF action, that is applied subcutaneously and is indicated in cases of psoriasis refractory to other treatments. This study shows a possible lack of response to the treatments after consecutive applications in the same anatomical site.

#### **Speaker Biography**

Patricia Fabrini helds an infusional center in Belo Horizonte, Minas Gerais, Brazil. She also works as a dermatologist in Santa Casa, a great hospital in the city. She is nowadays responsible for the infusion of many of the patients diagnosed with immunomediated diseases, like Psoriaisis, Arthritis, Crohn's disease and Ankyloosing Spondyhlitis where patients with psoriasis and arthritis receive immunobiological treatment.

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### Inflammation and Vitamin D: The Infection Connection

Meg Mangin

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Inflammation is believed to be a contributing factor in many chronic diseases. The influence of vitamin D deficiency on inflammation is being explored but studies have not demonstrated a causative effect. Low serum 25(OH)D is also found in healthy persons exposed to adequate sunlight. Despite increased vitamin D supplementation inflammatory diseases are increasing. The current method of determining vitamin D status may be at fault. The level of 25(OH)D doesn't always reflect the level of 1,25(OH)2D. Assessment of both metabolites often reveals elevated 1,25(OH)2D, indicating abnormal vitamin D endocrine function. Some authorities now believe that low 25(OH)D is a consequence of chronic inflammation rather than the cause. Research points to a bacterial etiology pathogenesis for an inflammatory disease process which results in high 1,25(OH)2D and low 25(OH)D. Immunotherapy, directed at eradicating persistent intracellular pathogens, corrects dysregulated vitamin D metabolism and resolves inflammatory

symptoms. This article reviews vitamin D's influence on the immune system, examines the myths regarding vitamin D photosynthesis, discusses ways to accurately assess vitamin D status, describes the risks of supplementation, explains the effect of persistent infection on vitamin D metabolism and presents a novel immunotherapy which provides evidence of an infection connection to inflammation.

#### Speaker Biography

Meg Mangin, R.N. is the Executive Director of Chronic Illness Recovery. She has presented at many conferences, including Days of Molecular Medicine in Karolinska, the International Conference on Autoimmunity in Porto, Portugal, the American Society of Hypertension Meeting, Enabling Future Pharma, Perspectives in Rheumatic Diseases, Immunology Summit, International Lyme Society, American Association of Family Practitioners and the 18th Vitamin D Workshop. She is the co-author of a chapter in the textbook Vitamin D: New Research and the lead author of the ground-breaking review article Inflammation and vitamin D: the infection connection published in the October 2014 issue of Inflammation Research.

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### Role of Institute of Allergy and Clinical Immunology of Bangladesh (IACIB) for elimination of Filariasis and control of other neglected tropical diseases in Bangladesh

Moazzem Hossain IACIB, Bangladesh

angladesh- a developing country with 170 million population Din 64 districts, harbors all Neglected Tropical Diseases (NTDs) as Lymphatic Filariasis (LF), Rabies, Leishmaniasis, Soil Transmitted Helminthiases (STH), Dengue, Malaria, Tuberculosis, HIV/AIDS, Echinococcosis, Thalassaemia (Genetic disorder) etc throughout the country. IACIB was established in 1995 as a registered NGO. From its inception it has been working on all NTDs with special emphasis on LF. IACIB established two hospitals for LF and one "Thalassaemia Hospital and Institute", all these three are the ONLY hospitals of this kind in the country and Globally as well for LF. Through these charitable hospitals the organization has been providing low cost services to the neglected poor people of the country, conducting various researches on NTDs. Fulbright fellow from USA, students from Japan, Australia, Japan Overseas Cooperation Volunteers (JOCVs) etc are involved in various practical training, research on NTDs etc as a part of their master's degree, MPH, PhD and the local researchers are also involved with different NTDs activities of IACIB. Only IACIB convinced and proposed the Ministry of Health (MOH) to start and develop all the separate projects/ programs of NTDs starting from LF in 2000 and gradually other projects under MOH. IACIB is involved with different control programs of MOH through Memorandum of Understanding (MOU). There was such tremendous success of NTDs control activities of MOH and IACIB that LF was declared eliminated in 2011, death rate of Malaria reduced from 700 yearly in 2006 to near 20 yearly now, death rate of Dengue yearly from 93 since 2000 reduced to 0 (Zero) since 2007 and similarly other NTDs as Leishmaniasis etc. Hon'ble Prime Minister of Bangladesh HE Sheikh Hasina was awarded by WHO in 2015 for tremendous success of control of communicable NTDs in Bangladesh, which was a great unparallel contribution of IACIB. IACIB for the first time organized the International conference on NTDs and Climate Change. Ministry of Social Welfare, Government of Bangladesh supported IACIB to establish one Hospital for NTDs. Now IACIB invites all to come forward for support for poor Thalassaemia patients, morbidity control of other NTDs, emerging and re-emerging diseases and research etc.

#### **Speaker Biography**

Moazzem Hossain, founder and chairman of IACIB, is a specialist in Microbiology, Immunology & Biotechnology with long experience in operation of Govt. & NGO projects. He worked in Directorate General of Health Service, Ministry of Health & Family Welfare as Director Disease Control for long.He received the 'Vestergaard Frandsen Award 2011' from the National Academy of Vectors and Vector Borne Diseases, India for the South East Asian region for his outstanding contributions in the field of communicable diseases control in Bangladesh.

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### The Immunology of pregnancy

Akinyemi Ayodeji Akinsanya Hospital Igbobi-Lagos, Nigeria

Pregnancy is an immunological balancing act in which the mother's immune system has to remain tolerant of paternal major histocompatibility (MHC) antigens and yet maintain normal immune competence for defense against microorganisms. The placenta separates fetal and maternal blood and lymphatic systems and it is fetal trophoblast that plays the major role in evading recognition by the maternal immune system. Trophoblast cells fail to express MHC class I or class II molecules and the extravillous cytotrophoblast cells strongly express the nonclassic MHC gene encoding HLA-G, which may downregulate natural killer (NK) cell function. In addition, the trophoblast expresses Fas ligand, thereby conferring immune privilege: maternal immune cells expressing Fas will undergo apoptosis at the placenta/decidua interface. A third protective mechanism exploited by the trophoblast is the expression of the

complement regulatory proteins CD46, CD55, and CD59. Uterine

decidual and placental cells produce a huge array of cytokines which, in part, contribute to the deviation of the immune response from Th1 to Th2. This may leave the mother more open to infection whose control is Th1-dependent, but increased production of Th1 cytokines has been linked to spontaneous abortion and small-for-dates babies. This bias in cytokines and hormonally mediated effects on the thymus and on B cells may also contribute to the suppression of autoimmune responses and changes in circulating and local T-cell subsets in pregnancy.

#### **Speaker Biography**

Akinyemi Ayodeji Akinsanya American medical educator, physician, consultant. He did his scholar in University lagos,2008 and Proceeds to Newcastle University Medicine Malaysia to earn his doctorate. Bachelor of Science with honors, University of Lagos Bachelor of Medicine Bachelor of Science with honors, Doctor of Medicine, Newcastle University Medicine Malaysia 2012. Currently, working as a Medical resident health Hospital igbobi lagos and lecturer I Lagos state university junior lecturer, 2017.

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### High CD8 cell percentage and HCV control in HIV-1 controllers and HTLV-2 coinfected patients

### Alejandro Vallejo

Ramón y Cajal University Hospital, Spain

Natural control of HIV-1 infection occurs in less than 1% of patients, maintaining very low plasma HIV-1 RNA loads or even below the limit of detection, and usually with no clinical signs of disease progression for many years without any antiretroviral treatment.

HTLV-2/HIV-1 co-infection is found with relatively high frequency among injection drug users in North America and Western Europe. These patients have been reported to have lower levels of plasma HIV-1 RNA loads before antiretroviral treatment, and slower decrease of CD4 T cell counts.

These two groups of patients show an immune capacity that enables a certain control of viral infections, dramatic control of HIV-1 replication in the case of controllers. The aim of this study was to compare viral and immunologic parameters between HIV-1 controllers (N=75), HTLV-2/HIV-1 chronic progressors (N=57), and HIV-1 chronic progressors (N=182).

#### **Speaker Biography**

Alejandro Vallejo is a biologist and completed his PhD at Complutense University, Madrid, Spain. One of his fields of research is the study of immune parameters of HTLV infections among HIV-1 infected patients. He moved to the Laboratory of Molecular Virology, CBER, Food and Drug Administration, Bethesda, MD, USA, as a Post-Doctoral Fellow (1995-2000) and developed several works on molecular epidemiology of HTLV and HIV, and viral tropism. Then he joined the Immunovirology Laboratory at the Virgen del Rocío University Hospital, Seville, Spain, as an independent researcher (2000-2008). He focused his research on immune recovery of HIV-1-infected patients. Then he moved to Ramon y Cajal University Hospital in Madrid to follow his research on HIV-1 immunopathology and continuing the research on HTLV-1/2 infections (2008) running the Laboratory of Molecular Virology within the Infectious Diseases Department.

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### Comparison of the Immunomodulatory effects of isolated stage 2 and stage 4 carcinoma associated fibroblasts in mouse Breast Cancer model

Ladan Langroudi

Kerman University of Medical Sciences, Iran

**Background:** studies have shown that the microenvironment of solid tumors, specifically carcinoma associated fibroblasts, affect the development and progression of cancer. Additionally, it is responsible for immune evasion and drug resistance of cancer cells. However, the crosstalk between CAFs and the immune system is still unidentified.

**Methods:** in this study, we characterized and compared the phenotype and the immunomodulatory properties of stage 2 and 4 CAFs isolated from mammary tumor of Balb/C mouse. Results: Flow cytometry of the surface marker panel showed that stage 4 CAFs express significantly higher levels of HLA-DR. Also, Higher levels of IL10, COX-2 and MMP9 enzyme was also observed in stage 4 CAFs. Whereas in stage 2 CAFs higher amounts of TFG- $\beta$  and IDO expression was observed.

Conclusion: CAFs represent the supporting stroma of cancer. They are known responsible for immune evading and growth of cancer. Functional differences showed by their surface markers, cytokine and enzyme production indicates to induction of different microenvironments in their presence. The discrepancy observed in cancer therapies may be attributed to the influence of CAFs. Therefore, further studies are required to fully elucidate the role of CAFs in various stages of cancer.

#### **Speaker Biography**

Ladan Langroudi did her Ph.D. in Medical Immunology, Tarbiat modares university, Tehran. Master of Medical Immunology, Tarbiat modares university, Tehran. BSc in laboratory sciences, Kerman University of Medical Sciences. Currently she is a professor of laboratory sciences, Kerman University of Medical Sciences in the Department of Immunology.

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### Young Researchers Forum July 27, 2018

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### Bortezomib increases risk of herpes zoster infection in multiple myeloma

Ying Li<sup>1</sup>, Juan Li<sup>1</sup> and Qingping Wu<sup>2</sup> <sup>1</sup>Hospital of Sun-yat-sen University, China <sup>2</sup>Guangdong Institute of Microbiology, China

**Aims:** To find out the characteristic manifestations of herpes zoster (HZ) infections in multiple myeloma (MM) patients who received bortezomib, and analyze the risk factors for HZ infection in these MM patients.

**Methods:** Retrospectively compared the HZ infections in 142 cases of MM who received bortezomib and 86 cases receiving traditional chemotherapies to found out the characteristic manifestations in the bortezomib group.

**Results:** MM receiving bortezomib were more susceptive to HZ infection at the early stage of the treatment (P<0.01). Compared to the traditional regimens, bortezomib-base regimens brought higher HZ infection risk (P=0.047) and severe and atypical manifestations to MM patients (P=0.028). Worse still, boterzomib-treated patients needed more time to recover from HZ infections (P=0.008). And the IgG type, 6 months after bortezomib treatment and lymphocytes counts<1.0×109/L

were independent risk factors of herpes zoster infection (P<0.01).

**Conclusions:** MM patients receiving bortezomib were more vulnerable to HZ infection. And once infected, they were slower in recovery and had to delay their chemotherapy plan (P=0.48). As a result, to those MM with risk factors of HZ infection, preventive antivirus and immuno enhancer are suggested.

#### **Speaker Biography**

Ying Li holds the position of assistant fellow in Guangdong Institute of Microbiology, the state key laboratory of applied microbiology Southern China. Ying Li is thirty-two yrs old and have majored in clinical medicine, hematology and immunology in Sun-yat-sen University since 2004. She became Attending physician of hematology in 2016. In 2017, she joined the Guangdong Institute of Microbiology, the state key laboratory of applied microbiology Southern China as assistant fellow and continue her study on microbiome, immunology and hematology. Ying Li has published eight SCI manuscripts and three books about multiple myeloma and hematology.

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### Molecular characterization of a novel phage GW1 lysing Cronobacter

Haiyan Zeng<sup>1</sup>, Wenjing He<sup>1</sup>, Chengsi Li<sup>1</sup>, Jumei Zhang<sup>1</sup>, Na Ling<sup>1</sup>, Liang Xue<sup>1</sup>, Moutong Chen<sup>1</sup>, Haoming Wu<sup>1</sup>, Qingping Wu<sup>1</sup> and Yu Ding<sup>2</sup> <sup>1</sup>Guangdong Institute of Microbiology, China <sup>2</sup>Jinan University, China

Took Cronobacter strains as the host for phage isolation, we isolated some phages from Pearl River of Guangzhou, China. More importantly, we obtained a newly identified lytic Cronobacter phage GW1, which had a linear doublestranded DNA genome of 39,695 nucleotides with an average GC content of 53.18 %. Among the identified 49 open reading frames (ORFs), genes for rRNA, tRNA, antibiotic resistance, and virulence factors were not found in the phage genome. In BLASTn, the data revealed that the genome of phage GW1 had the highest identity of 94% to Citrobacter phage SH4, followed by 93% identity to Cronobacter phage Dev2. The morphology, genomic features, and phylogenetic analyses

revealed that GW1 represented a new species of the T7virus genus. This novel lytic Cronobacter phage GW1 may provide an alternative phage therapy and biocontrol against Cronobacter.

#### Speaker Biography

Haiyen Zheng did her Ph.D in Wuhan Institute of Virology , Chinese Academy of Sciences, Biochemistry and Molecular Biology, Bachelor of Medicine, Department of Medical Laboratory, Xiangya School of Medicine, Central South University. Pollution prevention and control and pathogenic mechanism of food-borne Cronobacter. Awards, honors and representation of academic groups at home and abroad: She received the National Scholarship, the First East Lake Academic Forum Excellent Exhibition Board Award, and the third prize of Hubei Excellent Academic Paper.

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