

Meeting Report

Highlights of the international symposium of clinical immunology 2017

Rong-Zhen Liang*, Feng Huang*

The Department of Clinical Immunology, Third Hospital at Sun Yat-sen University, Guangzhou 510630, China.

**Equal contributors.*

Received January 29, 2018; Accepted January 30, 2018; Epub April 5, 2018; Published April 15, 2018

The International Symposium of Clinical Immunology 2017, organized by Professor Song-Guo Zheng and Li-Min Rong, was held on October 17th-18th in Guangzhou, China. The conference was supported by the Chinese Society for Immunology and the third Affiliated Hospital of Sun Yat-sen University. Despite occurring in the middle of a typhoon, the organizers and attendees persevered and the conference was a resounding success.

With a theme of clinical immunology, the International Symposium of Clinical Immunology 2017 focused on Rheumatic immune diseases, anaphylactic diseases, immune liver diseases, diabetes mellitus, osteoarthritis, hematogenic immunity, with emphasis on clinical studies and therapeutic advances. The conference occurred on October 17th and 18th and was divided into Chinese Clinical Immunology Forum and International Clinical Immunology Forum.

Chinese clinical immunology forum

Focusing on the interaction between micro RNA and allergic disease, Professor Hua-Bin Li from Fudan University demonstrated how micro RNA influenced allergic rhinitis. Changing directions from Allergy to Hepatology, Professor Bing-Liang Lin, who specialized in liver disease secondary to HBV viral infection, reviewed the immunocompetency of Acute on Chronic Liver Failure (ACLF). Highlights from the talk included that HBV infected patients with less activated CD8⁺ T cells were susceptible to ACLF. Dr. Wen-Ru Su then reported the progress on the clinical

trial evaluating Mesenchymal Stem Cell (MSC) on inflammatory disease as a potential therapy for ocular surface inflammatory disease. Changing gears with a focus on the chromosomal passenger complex (CPC), Dr. Guang-Ying Qi presented work investigating CPC's function in Oral Squamous Cell Carcinoma (OSCC) tumor. Another eight young researchers enthusiastically reported their academic work in an exciting and collaborative symposium.

The forum presented a wide range of clinical immunology topics from cytotoxic T cells involved in both anti-viral and anti-immunity to T cell tolerance with regulatory T cells. It is well known that CD8 T cells are professional killers by targeting virus-infected cells directly. However, what is less known is that CD8 T cells encounter functional exhaustion during chronic viral infection. Professor Li-Lin Ye's team found that CXCR5^{high} CD8 T cells have less burnout than CXCR5^{low} CD8 T cells, performing better at killing target cells in vivo. Moving on to T cell tolerance, FOXP3⁺ Treg became the next focus of the forum. The renowned Professor Bin Li then discussed the effects of deactivating FOXP3⁺ Treg, thereby activating anti-tumor immunity which was negatively regulated by FOXP3⁺ Treg. From First Affiliated Hospital of Zhengzhou University, Professor Yi Zhang presented several cancer clinical trials involving CAR-T targeting CD19 to treat B cell leukemia. He discussed that Combined Immunotherapy for Cancer has a bright future with many promising ideas such as combining anti-PD-1 biologic therapy with CAR-T immunotherapy. Furthermore, Professor Feng-Lin Cao added to the CAR-T therapy discussion

by reviewing this promising therapy's advances with updates on and challenges involved in CAR-T clinical trials.

International clinical immunology forum

On the second day of the forum, Professor Xin-Yuan Fu, known for his discovery of the "JAK-STAT" pathway, started his talk with the title "25 years later, JAK-STAT go to the clinics", telling a translational medicine story on how a scientific theory in the laboratory led to a therapy now used in clinical medicine for diseases such as rheumatoid arthritis. Professor Hui-Yao Lan from Hong Kong University then discussed TGF- β signaling and T cell immunity in kidney disease. He focused on Smad3, a key mediator in TGF- β signaling pathway. A subsequent knockout of Smad3 imbalanced T cell immunity. Based on Smad3's knock-out results, Prof. Hui-Yao Lan hypothesized that Smad3 may be a key transcriptional factor in balancing Treg versus Th17 response. After a lively discussion on Smad3, Professor Bernhard Ryffel from the French National Center for Scientific Research (CNRS), reported administration of Glufosinate (GLA), an analogue of glutamate (GLU), induced lung inflammation by activating NLPR3 to release IL-1 β . Professor Ryffel was followed by Professor Yu Zhang from Beijing University. He presented an overview in the latest events in T cell development, focusing on the CCR2 signaling pathway involved in negative selection and Thymic emigration.

This brief summary does not cover all the speakers comprehensively that presented at this intense two day symposium. Another seven

distinguished scholars also shared their scientific findings and participated in lively discussions surrounding clinical immunology. The conference concluded with an overview on the biological function of regulatory T cells by Professor Song-Guo Zheng. T regulatory cells (Treg) have known to be intricately involved in immune regulation. Professor Zheng was the first to discover that All-trans retinoic Acid (atRA) stabilized the natural Treg subset. He presented updated findings of the mechanism of the atRA stabilization process. The two-day conference then concluded and everyone who attended, even with the typhoon, claimed a victory. All attendees were honored to hear advances in the field by distinguished scientists in clinical immunology. The forum provided an outstanding environment that brought together junior and senior members of the immunology community.

Acknowledgements

We thank Dr. Rayford June in the Division of Rheumatology of the Penn State College of Medicine for assistance in reviewing and editing this communication.

Disclosure of conflict of interest

None.

Address correspondence to: Rong-Zhen Liang, The Department of Clinical Immunology, Third Hospital at Sun Yat-sen University, Guangzhou 510630, China. Tel: +86 18819430042; E-mail: liangrzh5@qq.com