Meeting report: Second Hydrogen Molecule Biomedical Symposium in Beijing, China

June 27, 2015, the Second Hydrogen Molecule Biomedical Symposium and the Second meeting of the Professional Committee of Molecular Hydrogen Biology and Medicine of China Association of Promoting International Communication of health care was grand opening in the Capital of China, Beijing, sponsored by China Association of Promoting International Communication of health care, undertaken by Professional Committee of Hydrogen Molecular Biology and Medicine of China Association of Promoting International Communication of health care and Beijing Energetic Hydrogen Source Biotechnology Company Ltd., assisted by China Management Committee of Special Fund of hydrogen molecular Biology and Medicine Progress of China Health Promotion Foundation Committee, Beijing University of Technology, Institute of Atherosclerosis of Taishan Medical University and Shanghai Asclepius Meditec Company Ltd.

Vice president of China Healthcare International Exchange Association and former director of the State Food and Drug Administration, Division of Market Oversight, Mr. Yu Shi made a wonderful opening speech at the meeting. Afterwards, Mr. Shu-zhong Bai, chairman of China Health Promotion Foundation, president of the Chinese Medical Association of Health Management, and former Minister of Ministry of Health of the General Logistics Department emphasized "With the rapid development of molecular hydrogen biomedicine, long-term development of hydrogen molecules will be well enforced by setting up a special fund and providing point to point support".

At the meeting, Professor Xue-jun Sun from Second Military Medical University, China who is national authority in the field of molecular hydrogen and the chairman of Professional Committee of Molecular Hydrogen Biology, Medicine of China Association of Promoting International Communication of Health Care, also give a cheerful lecture about hydrogen biomedicine. He reviewed history evens of hydrogen molecular medicine's development starting from the publication of Professor Shigeo Ohta from Japan in *Nature Medicine* at 2007. He then offered objective evaluation of the Chinese contribution including his own to the development of hydrogen molecular medicine in the world through digitally exhibited the number of hydrogen-related medical papers from globe research circle in recent years. "However, it is noteworthy that rare clinical research related to hydrogen, only 20 papers globally, have been published

till now. It needs to be strengthened in near future. Also, studies of the mechanism underlying hydrogen treatment of diseases are still in deficiency." pointed out by Professor Sun. At the end of his speech, Professor Sun proposed some his own opinion about the future research on hydrogen biomedicine, 1) the real mechanism underlying biological effects of hydrogen should be the most important focus to the hydrogen researchers, 2) the study of hydrogen dose-response effects should be promoted steadily and quickly.

Then, Professor Shu-cun Qin from Taishan Medical School, China introduced the effect of hydrogen on the body lipid metabolism. Professor Qin systematically reviewed all the work he completed in recent years. For instance, he and his team chose the most appropriate animal model of lipid metabolism, applying it in a full range of research in order to prove moderating effect of hydrogen on lipid metabolism. Then they chose people who meet certain criteria and conducted randomized double-blind placebo-controlled trial to demonstrate the hydrogen molecules can effectively improve low density lipoprotein (LDL) levels and LDL oxidation mediated inflammation in the metabolism syndrome patients. The results published in this year's *Journal of Clinical Endocrinology and Metabolism*, which obtained an impact factor of 6.31 points.

Afterwards, some other speakers made their own fascinating presentations. Professor Kyu-Jae Lee from Yonsei University in Korea, made a speech entitled "Clinical application of hydrogen-rich water and hydrogen in atopic dermatitis"; Tyler LeBaron from the United States Institute for Molecular Hydrogen shared with participants at the meeting his excellent report "From the perspective of development and molecular biology observing the hydrogen molecules influence on elaborate eukaryotic organisms"; Professor Xue-mei Ma from Beijing University of Technology, explained her work on the "hydrogen molecules in the fight against toxic organophosphate pesticide application"; Professor Ke Ma from Beijing Tongren Eye Center, reported "Hydrogen in ophthalmology" bringing new insights of the treatment of eye diseases; Professor Cai Jianming from the Second Military Medical University, gave a lecture entitled "The protective effect of hydrogen molecules against radiation injury" for the participants showing the new aspects of molecular hydrogen application; Professor Ning Yu from People's Liberation Army General Hospital, shared with researchers at the meeting "The study of the molecular mechanisms of saturated hydrogen saline on the protective effect of noise-induced hearing loss". All the researches are high-end projects and show multi-application of hydrogen in medical area.

In China, it is annually drawing more government's efforts

to support research projects in the field of hydrogen molecular biology with the rapid development of the hydrogen molecules in biomedical research. Till August 2014, there are 41 hydrogen-related projects winning the "National Natural Science Fund", 10 new projects have been approved just from January 2014 to August the same year, with a total funding of 3.61 million RMB. This is undoubtedly tremendous achievements for Chinese scholars compared to 8 projects each year from 2009 to 2013.

In summary, the successful opening of the second session of the hydrogen molecules in biomedical academic communications attracted more attention from various experts and scholars from numerous fields of expertise both at mainland China and abroad. This should promote the research and clinical application of biomedical hydrogen molecules. Hydrogen molecules biomedicine in return would make great contributions to the humanity for living long and prosper.

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