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Novel vaccination approach against HSV type-1 and type-2 infections

Herpes simplex virus type 1 and type 2 (HSV-1 and HSV-2) infections would be controlled by the development of an effective vaccine. However, in spite of several clinical trials, starting as early as 1920s, no vaccine has been proven sufficiently safe and efficient to warrant commercial development. Recently, great advances in cellular and molecular immunology understanding have stimulated creative approaches in controlling herpes infections and diseases. Before moving towards novel vaccine strategy, it is required to answer the important questions: Why past herpes vaccines were unsuccessful? Why the majority of HSV seropositive individuals naturally control HSV infections and exhibit few or no recurrent herpetic disease, while few others have frequent herpes clinical episodes? We recently discovered that HSV-1 symptomatic and asymptomatic individuals develop distinct immunity to viral epitopes recognized by CD4+ and CD8+ T cells. These epitopes (protective vs. pathologic) have provided a solid foundation for the development of novel herpes epitope based vaccine strategy. In this presentation, I will provide an overview of past clinical vaccine trials and outline current progress towards developing a new generation “asymptomatic” clinical herpes vaccines and discuss future mucosal “asymptomatic” prime boost vaccines that could optimize the protective immunity.

Biography

Aziz Alami Chentoufi is a Consultant and Head of Immunology/Serology/HLA section at Pathology and Clinical Laboratory Medicine, King Fahad Medical City (KFMC). He is also an Assistant Professor of Immunology at Faculty of Medicine, King Saud Ibn AbdulAziz University. He is the Chairperson of Research Committee of PCLMA-KFMC. He is the Diplomate of the American Board of Medical laboratory Immunology D(ABMLI), Fellow of the Association of Clinical Sciences (FACSc), accredited by the European Society of Translational Medicine (PCTM) and Fellow of the Academy of translational Medicine (FacadTM). He received his Ph.D. in Biomedical Sciences (Tolerance induction to xenogenic and allogenic antigens using monoclonal antibody anti-igM and anti-IgD) from the University Catholic of Louvain, Brussels, Belgium in 1999. He has done postdoctoral fellowship at McGill University, Montreal, Canada from 1999 to 2004 where he worked on immunogenetic of type 1 Diabetes and gene therapy for graft versus host disease then he was appointed as specialist at the University of California Irvine-Medical Center, Irvine, California, USA in 2006 where he was a key investigator in the development of mucosal vaccine against herpes simplex virus type 1 and 2. He is an independent Immunologist with a national and international reputation in vaccine development against both infectious and autoimmune diseases. He is well-integrated into the scientific community within the United States as well as Europe and Saudi Arabia and he is actively involved in a number of professional societies including American Society of Histocompatibility and Immunogenetic (ASHI), Association of Clinical Scientist, Canadian Society of Immunology and The Federation of Clinical Immunology Societies (FOCIS). He is PI and Co-PI in a number of research grant proposals and associate editor in many scientific journals and has more than 50 publications in high impact factor journals.

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