Therapeutic vaccination in chronic infectious diseases: The place of vectored vaccines

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Infectious pathogens resulting in chronicity have developed a wide array of strategies to hamper immune system of the infected host. These can involve immune-suppressive cytokines, activation of inhibitor pathways, T and B cells anergy and enhancing antibodies. The principal goal of therapeutic vaccination (so called active-targeted immune-therapeutic) is to complement the mechanism of action of standards-of-care (SOC) classically used in the treatment of chronic infection i.e., direct acting antivirals and antibiotics, by aiming at stimulating pathogen-specific, mostly T-cell based immunity, providing for the direct (cytolysis) or indirect (cytokine/antibody-mediated) destruction of infected cells. Vectored-based vaccines using poxvirus and adenovirus backbones are particularly fit for the robust expression of sophisticated immunogenic sequences together with the signaling of innate immunity. Their combined use with SOC as well as newly developed anti-infective agents is today providing new treatment paradigms for the poorly curable or resistant infections. This presentation will introduce the general concepts in this field with specific examples in the development of vectored-therapeutic vaccines for the treatment of chronic hepatitis and Mycobacterium tuberculosis infections.

Biography

Geneviève Inchauspé has over 20 years of experience in academia occupying different positions at the interface between basic and clinical research before joining the industry (Transgene). She has developed a strong expertise in vaccinology, immunotherapy, immunology and virology through the conduct of studies in various animal models, including non-human primates. She has been driving the specific development of therapeutic vaccine candidates from pre-clinical to clinical development for hepatitis B and C (Phase 1 and 2).

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