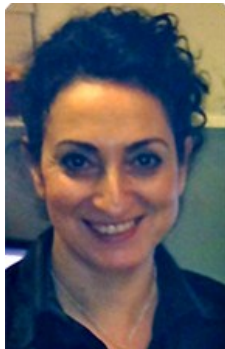




"Skin immunization: balancing of immune responses against infectious diseases ."



Vaccination is one of the most effective and affordable ways to save 2-3 millions lives each year. However critical issues on effectiveness and acceptability for vaccines are still discussed. Innovative vaccines are explored to conquering infectious diseases (Hepatitis, Dengue, HIV, Malaria and TB). Therefore, two aspects have been added, which are the prediction of intensity of immune responses through systems biology approaches and the development of alternative routes of immunization for increased efficacy. Most of the current vaccines are administered by intramuscular (IM) or subcutaneous (SC) routes, However, alternative routes are regaining popularity. Several factors strongly justify the use of these methods. The rationalization of targeting of the different cutaneous layers, i.e. the epidermis, dermis, or hypodermis as well as our advances in knowledge about the plasticity of antigen-presenting cells (LC, DC) allow today to propose rational immunization procedures. We have previously demonstrated that vaccination by this route activates CD8 T cells in human clinical Phase I study using conventional flu vaccine. One can thus question the impact of vaccine compounds and specific skin APC targeting, on the intensity, the nature and the quality of immune responses and consequently on the control of infectious diseases. We have studied the mechanism of immunization using particle-based vaccine including the role of LC and dermalDC as well as the recruitment of inflammatory cells and their impact on different arms of immunity. The vaccination field is at a turning point with ideas however increasingly relies on basic research in understanding and translating human immunity.

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Invitée par Chantal Pichon

Vendredi 6 février 2015 à 11h

Salle de conférence du CBM