Role of Epithelial-Derived Cytokines in the Initiation and Pathogenesis of Allergy

Clare M Lloyd, PhD

It is becoming increasingly apparent that asthma pathogenesis not only involves adaptive immunity, but also innate, antigen-independent immune responses. Several innate cytokines are released from the epithelium following either infection and/or allergen challenge and result in the release of classical Th2 cytokines seen in asthma pathogenesis. These include interleukin (IL)33, IL25 and thymic stromal lymphopoeitin protein (TSLP). Recently described innate helper cells that are produced in response to these innate epithelial cytokines are also likely immediate sources of Th2 cytokines. We have determined that IL-33 and IL-25 contribute to the development of acute and chronic allergic pathology following inhalation of allergen. Moreover, IL-33 is a steroid resistant cytokine able to promote airway remodelling directly.

This presentation will explore the hypothesis that the development of asthma is determined in early onset disease by the presence of innate epithelial cytokines such as IL33 and IL-25 that subsequently result in the release of classic Th2 cytokines during established disease.

Reading:

