European Respiratory Society
Annual Congress 2013

Abstract Number: 6023
Publication Number: PP173

Abstract Group: 1.1. Clinical Problems
Keywords: no keyword selected

Title: LSC 2013 abstract - Upregulation of IgA synthesis in COPD through TACI

Maha Zohra Ladjemi , Marylène Lecocq , Birgit Weynand , Holly Bowen , Bruno Detry and Charles Pilette . [1]
Université Catholique de Louvain (UCL), Institut de Recherche Expérimentale & Clinique (IREC), Pôle de Pneumologie, ORL & Dermatologie; Cliniques Universitaires St-Luc, Brussels, Belgium .

Body: Chronic obstructive pulmonary disease (COPD) is associated with structural remodelling, particularly of the epithelium which is impaired in its capacity to transport immunoglobulin (Ig) A (Pilette, C. et al. Am J Respir Crit Care Med 2001, 163(1):185-94). Although peri-bronchial lymphoid follicles have been described in COPD, it remains unknown whether IgA production and B-cell conditioning are altered in this disease. In this study, we assessed IgA production in lung tissue from COPD (n=32) versus control (n=23) patients, and regulation of B cells in co-culture with in vitro reconstituted airway epithelium from these patients (n=13 for controls and n=14 for COPD patients). We show that the COPD epithelium imprints B cells with an increased potential for switching to IgA(2), associated with induction of TACI on B cells. These effects were not observed when B cells were co-cultured with the epithelium from controls (smokers or non-smokers). In addition, TACI and IgA2 expression was strongly correlated in lung tissue. Moreover, upregulation of CD38+ plasma cells was also selectively observed in cocultures of B cells with the COPD epithelium. These findings suggest that the bronchial epithelium from COPD patients is characterized not only by impaired transport of IgA but also by aberrant education of B cells, with unexpected induction of maturation and of IgA synthesis.