INHALED CORTICOSTEROIDS INCREASE SIGLEC-5/14 EXPRESSION IN SPUTUM CELLS OF COPD PATIENTS.

P. Wielgat[1], R.M Mroz[2], A. Stasiak-Barmuta[3], A. Kwolek, P. Szepiel, E. Chyczewska[2], J.J Braszko[1], A. Holownia[1]

[1]Department of Clinical Pharmacology, Medical University of Bialystok, Waszyngtona 15A, Bialystok, Poland, pwielgat@gmail.com

[2]Department of Chest Diseases and Tuberculosis, Medical University of Bialystok, Zurawia 14, Bialystok, Poland

[3]Department of Clinical Immunology, Medical University of Bialystok, Waszyngtona 17, Bialystok, Poland

Recent studies revealed that several Siglecs, such as Siglec-8 and Siglec-14, may be an important therapeutic targets in asthma and COPD. Siglecs are a family of lectins belonging to the immunoglobulin superfamily that recognize sialic acid residues of glycoproteins. Most of Siglecs have intracellular immunoreceptor tyrosine-based inhibitory motifs (ITIM), implicating them in the suppression of immunoreceptor signaling. Siglec 5/14 is potentially involved in the negative regulation of innate immune responses.

The aim of this study was to analyze Siglec-5/14 expression in induced sputum cells of COPD patients treated with long-acting beta2-agonists (LABA) and LABA combined with long-acting antimuscarinic agents (LAMA) -Tiotropium and inhaled corticosteroids.

Siglec expression was assessed in sputum cells by flow cytometry using specific monoclonal antibody. Double staining of cells with specific antibodies indicated that Siglec-5/14 is expressed in monocyte/macrophages and neutrophiles but not on lymphocytes. Siglec-5/14 expression was significantly higher in patients receiving combined therapy including inhaled corticosteroids compared with patients taking only formoterol or formoterol+tiotropium. Our data suggest that corticosteroids may affect Siglec5/14 expression and possibly interfere with inflammation.