Monoclonal antibody appears effective and safe in asthma Phase IIa trial

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A novel approach to obstructing the runaway inflammatory response implicated in some types of asthma has shown promise in a Phase IIa clinical trial, according to U. S. researchers.

Their research will be presented at the American Thoracic Society 2013 International Conference and published simultaneously online in the *New England Journal of Medicine*.

The randomized, double-blind, placebo-controlled trial tested the efficacy and safety of the monoclonal antibody, dupilumab, in patients with "persistent, moderate-to-severe asthma" and elevated eosinophils, which are immune cells that mobilize in response to allergens and infections and are commonly seen in asthma.

According to lead author Sally Wenzel, MD, director of the University of Pittsburgh Asthma Institute, the combination of inhaled glucocorticosteroids (ICS) and long-acting beta agonists (LABA), which is a cornerstone of asthma controller therapy, does not work sufficiently in 10 to 20 percent of asthma patients in the United States.

"Asthma that is difficult to treat is increasingly recognized as comprising different phenotypes," she said. "With this study, we wanted to see whether dupilumab would reduce a surrogate index for asthma exacerbations when given with ICS and LABA and when those two therapies were withdrawn."

Dupilumab, a fully human monoclonal antibody discovered by Regeneron Pharmaceuticals and being developed by Regeneron and Sanofi, thwarts activation of the Th2 immune response implicated in asthma by blocking two cytokines, interleukin-4 and interleukin-13.

Over the course of a 12-week blinded treatment period and an 8-week follow-up, those patients who had received weekly injections of dupilumab experienced an 87 percent reduction in protocol defined asthma exacerbations, the primary endpoint of the study, vs. weekly placebo injections (odds ratio [95% CI]=0.08 [0.021 to 0.28]; p