Symptomatic Patients Suspected of Eosinophilic Gastritis and/or Gastroenteritis
Have Elevated Mucosal Mast Cell Counts Without Eosinophilia


1Mayo Clinic Rochester, Rochester, MN; 2University of North Carolina, Chapel Hill, NC; 3University of Utah, Salt Lake City, UT; 4University of Pennsylvania, Philadelphia, PA; 5Icahn School of Medicine at Mount Sinai, NYC, NY; 6Baylor College of Medicine, Houston, TX; 7Northwestern University, Chicago, IL; 8Cincinnati Children’s Hospital Medical Center, Cincinnati, OH; 9NH/NAID, Bethesda, MD; 10Tufts University Medical Center, Boston MC; 11Allfaixs, Redwood City, CA

- Pathologic accumulation and over-activation of eosinophils are implicated in multiple chronic inflammatory diseases in the GI tract including eosinophilic esophagitis (EoE), gastritis (EG), gastroenteritis (EGE), and colitis - collectively termed eosinophil gastrointestinal diseases (EGIDs)

Patients with EGIDs have decreased quality of life due to debilitating symptoms such as dysphagia, abdominal pain, nausea, vomiting, and diarrhea

- While the pathogenesis of EGIDs has historically been thought to be driven by eosinophils, mast cells have also been shown to be elevated in EoE1,2

- The role of mast cells in other EGIDs has yet to be established

- To characterize symptomatic patients with suspected EG/EGE who did not meet histopathologic entry criteria for mucosal eosinophilia for a Phase 2 randomized, double-blind, placebo-controlled study of antolimab in patients with EG/EGE

RESULTS

Figure 1. Pathogenesis of EGIDs

METHODS

Figure 2. Antolimab (AK002) Mechanism of Action

Figure 3. ENIGMA Screening Protocol

Figure 4. Counting Eosinophils and Mast Cells

Table 1. Baseline Characteristics

Figure 5. Mast Cells Are Consistently Elevated in Stomach and Duodenal Biopsies in Clinically Suspected EGID Even in Absence of Tissue Eosinophilia

CONCLUSIONS/DISCUSSION

- Eighty-eight patients with suspected EG and/or EGE and active symptoms underwent endoscopy and biopsy: 72 of 88 met histologic eosinophil criteria for the study

- 87 of 88 (99%) patients screened had elevated mast cell counts in gastric and/or duodenal tissue biopsies

- Symptom profiles were similar between patients with and without tissue eosinophilia

- These data suggest that mast cells play an important pathogenic role in patients with suspected EG/EGE and raise the possibility of a non-eosinophilic condition driven by mast cells

- Due to antolimab’s ability to inhibit mast cells, patients with elevated mast cells without tissue eosinophilia were offered to participate in an open label antolimab clinical trial (Data expected in 2020)