

Healing Effects of Omalizumab in a Patient with Cholinergic Urticaria Associated Severe Dyspeptic Complaints

Ali Kutlu¹, Alpaslan Tanoglu², Sami Ozturk¹

¹Department of Immunology and Allergy, GATA Haydarpasa Training Hospital, 34668 Uskudar, Istanbul, Turkey

²Department of Gastroenterology, GATA Haydarpasa Training Hospital, 34668 Uskudar, Istanbul, Turkey

To the Editor: Cholinergic urticaria (CU) is a type of physical urticaria characterized by a number of short-lasting, highly pruritic weals. The underlying pathological mechanism of CU is not fully understood.^[1] Omalizumab is a humanized, monoclonal IgG anti-IgE antibody that binds specifically to circulating IgE molecules, thus interrupting the allergic cascade.^[2] The efficacy of anti-IgE treatment has been shown in many disorders with complex and unclear etiology, comprising physical urticarias, chronic idiopathic urticaria, angioedema and eosinophil-associated gastrointestinal disorders.^[3]

A 38-year-old Caucasian male with severe CU was presented to GATA Haydarpasa Training Hospital in September 2014. Severe dyspeptic complaints including epigastric pain and upper abdominal fullness were accompanied the urticarial lesions for 6 months. He mentioned that approximately 20–30 min after many kind of foods and mild exercise severe pruritic hives took place, especially on the trunk and upper extremities [Figure 1]. He also indicated that the dyspeptic complaints were not improved by use of H2 receptor antagonists or proton pump inhibitors (PPIs). His physical examination was unremarkable. Laboratory tests including whole and routine blood count, liver and thyroid function tests, anti-nuclear antibody, rheumatoid factor and total tryptase levels were normal. Total IgE levels were 46 U/ml. He was prescribed various sedating and nonsedating antihistamines, leukotriene receptor antagonist and anticholinergics. Corticosteroids had a positive effect on urticarial lesions but were ceased due to severe dyspeptic complaints. He underwent an upper gastrointestinal endoscopy and was diagnosed as “eritematous pangastritis.” Histopathological examination revealed minimal to moderate chronic superficial inflammation without activation. *Helicobacter pylori* infection and “eosinophilic gastritis” were not detected. He was then prescribed different PPIs (lansoprazole and esomeprazole), but, unfortunately, his gastric complaints were not improved. Although using high dose antihistamines and leukotriene antagonists, his CU associated symptoms were not healed. Afterwards, he was prescribed omalizumab 150 mg solution for injection monthly. One month later he was re-evaluated. The life quality of the patient was prominently improved shortly after the first dose, as demonstrated with the dermatologic life quality index,^[4] and gastric complaints almost completely disappeared. He is still given omalizumab treatment regularly. He has had minimal



Figure 1: Cholinergic urticarial lesions of this 38-year-old male patient.

skin complaints, only with heavy exercise, during the period when using omalizumab, but no more gastric complaints.

To date, the therapeutic efficacy of omalizumab on CU associated resistant dyspeptic complaints has not been reported. The effectiveness of anti-IgE treatment is not only restricted to inhibition of allergen IgE interactions. It has rather complicated consequences. Stimulation of FcεRI in human umbilical cord mast cells causes a substantial change in expression of many genes, including 18 cytokines, 13 chemokines, and several adhesion molecules involved in potential interactions with T cells, B cells, or dendritic cells.^[5]

It is well-known that the gastrointestinal system plays a central role in immune system homeostasis and its relationship with the immune system is rather complicated. With current information, it is not easy to comment on how this newly emerged multi-potent immune therapeutic agent had these effects on dyspeptic complaints. In conclusion, the therapeutic spectrum of anti-IgE treatment

Access this article online

Quick Response Code:



Website:
www.cmj.org

DOI:
10.4103/0366-6999.157703

Address for correspondence: Dr. Alpaslan Tanoglu,
Department of Gastroenterology, GATA Haydarpasa Training
Hospital, 34668 Uskudar, Istanbul, Turkey
E-Mail: alpaslantanoglu@yahoo.com

comprises allergic disorders related to many clinical problems, including CU associated dyspeptic complaints.

REFERENCES

1. Nakamizo S, Egawa G, Miyachi Y, Kabashima K. Cholinergic urticaria: Pathogenesis-based categorization and its treatment options. *J Eur Acad Dermatol Venereol* 2012;26:114-6.
2. Strunk RC, Bloomberg GR. Omalizumab for asthma. *N Engl J Med* 2006;354:2689-95.
3. Metz M, Altrichter S, Ardelean E, Kessler B, Krause K, Magerl M, *et al.* Anti-immunoglobulin E treatment of patients with recalcitrant physical urticaria. *Int Arch Allergy Immunol* 2011;154:177-80.
4. Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI) – a simple practical measure for routine clinical use. *Clin Exp Dermatol* 1994;19:210-6.
5. Sayama K, Diehn M, Matsuda K, Lunderius C, Tsai M, Tam SY, *et al.* Transcriptional response of human mast cells stimulated via the Fc (epsilon) RI and identification of mast cells as a source of IL-11. *BMC Immunol* 2002;3:5.

Received: 08-12-2014 **Edited by:** Xin Chen

How to cite this article: Kutlu A, Tanoglu A, Ozturk S. Healing Effects of Omalizumab in a Patient with Cholinergic Urticaria Associated Severe Dyspeptic Complaints. *Chin Med J* 2015;128:1559-60.

Source of Support: Nil. **Conflict of Interest:** None declared.

