

Tea-induced chronic urticaria: A case report and review of the literature

Ahmed Abdul-Aziz Ahmed, Hayder Saad Ahmed

Department of Dermatology and Venereology, College of Medicine, Tikrit University, Iraq

Corresponding author: Ahmed Abdul-Aziz Ahmed, MD, FICMS, E-mail: ahmedabdul-aziz@tu.edu.iq

Sir,

Urticaria is an immunologically mediated hypersensitivity reaction developing in both sexes. Although it may occur at any age, young females are more frequently affected [1]. Acute urticaria, shorter than six weeks, is generally self-limited. In contrast, a patient with urticaria lasting more than six weeks is classified as having chronic urticaria. Patients with chronic urticaria may be classified into either chronic inducible urticaria or chronic spontaneous urticaria (CSU). Urticaria may be either a true IgE mediated allergic reaction or a non-IgE mediated pseudo-allergic reaction by releasing prostaglandins and leukotrienes [2].

A routine test usually includes CBC, ESR, and infection screening. Provocation tests for physical urticaria and immunological tests are performed to identify autoimmune urticaria. Skin prick tests and oral provocation tests are employed to differentiate allergic and pseudo-allergic reactions [3].

In contrast to physical urticaria, in which the triggering physical stimuli is usually easy to identify, it is often cumbersome to determine the trigger of chronic spontaneous urticaria. The following case represents an example of such a hidden trigger of CSU.

A thirty-year-old male had been suffering from ordinary urticaria for the last eight years. At one point, the patient developed angioedema but there was no history of anaphylaxis. No specific physical trigger was noted throughout this period. Apart from antihistamines, no drugs, including OTC or supplements, had been used regularly. The patient was distressed with a poor quality

of life because of the difficult to control urticaria. There was no personal or family history of atopy or allergic diseases. Laboratory testing, including CBC, ESR, hepatitis screening, a *H. pylori* test and a general stool examination, were all negative. The symptoms were difficult to control with antihistamines. No immunosuppressive or biologic drugs were used for the urticaria. A pseudo-allergen-free diet was considered and included only rice, potatoes, additive-free bread, and oils for two weeks with daily monitoring of the severity of the symptoms. Shortly thereafter, the patient's symptoms improved dramatically. Then, dietary products were introduced gradually one item every three days with a food diary. Interestingly, deterioration was noted within one hour after the re-introduction of tea. The triggering effect of tea was further confirmed with a subsequent tea-withdrawal-induced remission and relapse of urticaria upon a tea oral provocation test under direct supervision. During the entire period of pseudo-allergen-free diet, the patient was on the standard dose of an antihistamine. Subsequently, oral provocation tests were performed with different types of tea yet without triggering any symptoms. Therefore, only one particular type of tea was responsible for triggering the urticaria. Since the dietary elimination of that type of tea, the patient has never developed urticaria even without antihistamines. Currently, while consuming a different type of tea, the patient is free of urticaria without taking any antihistamines.

The role of food in inducing or aggravating chronic urticaria is well recognized. It may be either a food allergy (IgE-mediated) or food intolerance (non-IgE-

How to cite this article: Abdul-Aziz Ahmed A, Ahmed HS. Active vitiligo vulgaris following the administration of the Oxford–AstraZeneca (AZD1222) vaccine against SARS-CoV-2. *Our Dermatol Online*. 2022;13(3):330-331.

Submission: 29.10.2021; **Acceptance:** 06.01.2022

DOI: 10.7241/ourd.20223.27

mediated). Despite the fact that the self-reported prevalence of food as a trigger of CSU is 13–80%, the true prevalence of allergic reactions is 2%, while pseudo-allergic-reaction-induced urticaria reported in the literature ranges from 1% to 50% [4].

Dietary triggers of pseudo-allergen-mediated-urticaria include natural compounds (certain fruits, spices, vegetables), artificial additives (dyes, preservatives, flavorings), and vasoactive compounds (acetylsalicylic acid, histamine, nitric oxide). Nevertheless, additives represent only a minority of the pseudo-allergic reactions. Tea-induced urticaria is well documented yet without a known prevalence. Caffeine was reported to induce urticaria in eight patients [5]. On the other hand, traces of chlorothalonil, a fungicide used in organic tea, was reported to induce several allergic reactions, including urticaria and angioedema. Tea flavorings were also responsible for inducing urticaria. Our patient developed urticaria within several hours of the consumption of one particular type of tea, indicating an IgE-mediated reaction. Since the symptoms were not induced by consuming coffee or cola, the effect of caffeine as a potential trigger was excluded. In addition, the patient developed no urticaria after oral provocation tests with other types of tea. Therefore, the probability of certain flavorings being a potential trigger of urticaria was strongly considered in this case [4,5].

Three types of dietary management were described in the literature, a pseudo-allergen-free diet, a low-histamine diet, and a diet without fish products. A complete remission and partial remission to these dietary regimens were (4.8%, 37.0%), (11.7%, 43.9%), and (10.6%, 4.3%), respectively. In the case of IgE-mediated urticaria, the specific food allergens need to be eliminated as far as possible, leading to a remission within less than 24 hours [6]. The risk of a nutritional deficiency from a low pseudo-allergen diet is minuscule as most macro- and micronutrients will be compensated by the consumption of vegetables. However, the latest guidelines from the EAACI/GA²LEN/EDF/WAO do not recommend a PFD or LHD because of its

controversy and the lack of well-controlled, double-blind, placebo-controlled studies [7].

This case report confirms tea as a hidden trigger of chronic urticaria, which resolves completely upon tea dietary elimination. It also draws attention upon the role of diet in chronic urticaria. In addition, this case report highlights the importance and safety of dietary restriction in the diagnosis and control of chronic urticaria.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki. The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

REFERENCES

1. Frigas E, Park MA. Acute urticaria and Angioedema. *Am J Clin Dermatol*. 2009;10:239-50.
2. Antia C, Baquerizo K, Korman A, Bernstein JA, Alikhan A. Urticaria: E comprehensive review: Epidemiology, diagnosis, and work-up. *J Am Acad Dermatol*. 2018;79:599-614.
3. Sánchez J, Sánchez A, Cardona R. Dietary habits in patients with chronic spontaneous urticaria: Evaluation of food as trigger of symptoms exacerbation. *Dermatol Res Pract*. 2018;19:2018.
4. Reese I, Zuberbier T, Bunselmeyer B, Erdmann S, Henzgen M, Fuchs T, et al. Diagnostic approach for suspected pseudoallergic reaction to food ingredients. *JDDG: J Dtsch Dermatol Ges*. 2009;7:70-7.
5. Tognetti L, Murdaca F, Fimiani M. Caffeine as a cause of urticaria-angioedema. *Indian Dermatol Online J*. 2014;5(Suppl 2):S113.
6. Andres C, Chen WC, Ollert M, Mempel M, Darsow U, Ring J. Anaphylactic reaction to camomile tea. *Allergol Int*. 2009;58:135-6.
7. Zuberbier T, Aberer W, Asero R, Abdul Latiff AH, Baker D, Ballmer-Weber B, et al. The EAACI/GA²LEN/EDF/WAO guideline for the definition, classification, diagnosis and management of urticaria. *Allergy*. 2018;73:1393-414.

Copyright by Ahmed Abdul-Aziz Ahmed, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

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