CASE STUDY

Urticaria Successfully Treated with Mindfulness and Nutraceutical Supplements

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1. Introduction

Urticaria is a complex allergic disorder characterized by pruritic eruption over the skin. It is commonly caused by allergies to food, drugs or other environmental agents and it may affect 15% to 20% of the population at least once in the lifetime. It has been estimated that up to 25% of patients with acute urticaria progress to chronic urticaria. Chronic urticaria is defined by the occurrence of frequent, recurrent skin lesions for at least six weeks in the absence of any causative physical or environmental trigger. In half of the chronic urticarial symptoms resolve in about one year. Conversely, 20% experienced urticarial attacks for more than 20 years.

Regarding chronic urticaria pathophysiology, it is unclear yet. It may be related to immunological mediators such as IgE, and IgG antibodies directed to IgE or even other factors that may activate mast cell degranulation of histamine. Some authors hypothesize that one of the possible causative factors is psychological distress, including anxiety. Chronic conditions may be associated with anxiety or depression, and they occur in urticaria. Several potential underlying shared mechanisms can be offered to explain the joint presentation of chronic urticaria with anxiety and depression. One potential mechanism is the existence. The immune system abnormalities occurring in CSU, anxiety, and depression may indicate a systemic link between the three disorders of shared immune-mediated mechanisms, as a systemic immune malfunction is prevalent in these conditions.

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Treatment modalities for urticaria involve the use of anti-histaminic, H2 antagonists, and glucocorticoids \(^{[2]}\). More than 50% of patients with urticaria do not respond to antihistamines doses that have been approved by the US Food and Drug Administration \(^{[2]}\). For these patients, higher than recommended doses are usually used in the clinical practice, and this approach may lead to a higher incidence of drug side effects, limiting the use of these medications \(^{[2]}\).

New modalities of treatment of chronic urticaria are definitely welcomed. In this regard, the inclusion of behavioral practices combined by a non-pharmacological nutraceutical approach, with lower risk of side effects, is highly desired.

The present article aims to report a case of a patient with recurrent chronic urticarial that was successfully and quickly treated with mindful and behavioral therapies combined with nutraceutical additives.

2. Case Report

A 20-year-old female patient with a negative past medical history presented with a 5-month history of diffuse pruritic and erythematous skin eruption compatible with urticaria, associated with breathless difficulties and severe fatigue. The lesions covered all body, except palms and plants. She was hospitalized in May 2018 and received dexamethasone, promethazine, and subcutaneous adrenalin. One month later the disease relapsed and was controlled with antihistamines (fexofenadine 120 mg), prednisone, and ranitidine only during acute attacks. In August 2018, a new relapse with a more diffuse and severe clinical picture of urticaria, but less pruritic appeared. Coming to our clinical facility, the woman denied any background diseases, previous use of long term medications, allergies, asthma, and food intolerance. On physical examination she demonstrated urticarial plaques on arms and face (Figure 1A), trunk, and legs (Figure 1B), and she was very anxious. A Beck anxiety inventory of 21 (normal: < 8) was calculated \(^{[3]}\). Laboratory tests showed white blood count of 25,900/mm\(^3\) (neutrophils 5,160/mm\(^3\), lymphocytes 1,672/mm\(^3\), eosinophils 76/mm\(^3\)), negative HIV 1 and 2 and syphilis serologies, total IgG 1264 mg/L (730-1620 mg/dL), IgM 172 mg/dL (50-300 mg/dL), IgA 217 mg/dL (40-350 mg/dL), IgE 355 mg/dL (<100 mg/dL), CH50- 158 U (60-265 U), 25-OH-vitamin D 20.4 ng/mL ( > 30 ng/mL), cortisol 13.1 mcg/dL, vitamin B12 402 pg/mL, C-reactive protein < 0.03 mg/L, Antinuclear antibodies, anti-Ro/SS-A, anti-La/SS-B, anti-RNP, anti-Sm lupus anticoagulant, antihitlodipin, rheumatoid factor, IgA and IgG antigliadin, anti-endomysium, anti-tissue transglutaminase, anti-mitochondrial, anti-myeloperoxidase, anti-proteinase 3, anti-insulin, anti-GAD were all negative. Serology for infectious diseases (syphilis, hepatitis B and C, cytomegalovirus, Epstein-Barr, rubella, HIV 1 and 2, HTLV I and II, and dengue) were all negative. Since she was symptomatic with low quality of life, it was offered a practice of mindfulness and an intake of the following supplements twice a day for 30 days: 5-hydroxytryptamine 100 mg, vitamin C 500 mg, magnesium 100mg, vitamin D3 10,000IU, vitamin A 10,000IU, quercetin 120 mg, and L-methionine 500mg. Omega-3 2 g per day, glutamine 5 g/day for microbiome reinforcement and valerian extract 1g in the morning and 2 g at night for anxiety, were also included. After two months, she returned asymptomatic, without any new episodes of urticaria or fatigue. No antihistamines, ranitidine, or glucocorticoids were consumed, during this period. Beck anxiety inventory returned back to normal in 3. Valerian was then reduced to 1 g twice a day, and the additives were reduced to 5-hydroxytryptamine 100 mg, vitamin C 500 mg, magnesium 100 mg, and vitamin D3 10,000IU once a day, and methyl cobalamin 200 mcg. Currently, two years after, the patient is asymptomatic, without fatigue, she had one or two episodes of mild urticarial per year, still practicing mindfulness and relaxation and no need more supplements for urticarial.

3. Discussion

This article reports a female patient who suffered recurrent urticaria and was successfully treated with several supplements and mindfulness exercises.

When a physician deals with chronic urticaria, the history of contacts, ingestions, inhalations, prescriptive and over the counter drug intake is mandatory. In fact, the leading cause of urticarial is idiopathic, comprising 75% of the cases. Drugs are responsible for only 9% of the
urticarial etiology, and food additives, preservatives, and pseudo allergens are the most common offenders [4].

Therapeutic strategies are wide. If the causative agent is identified, its elimination is most rewarding and if no etiology is identified, most probably, the patient will get anti-allergic medications. In the present woman, the antihistamines and steroids were effective only in the acute phase during hospitalization. Since the urticaria relapsed and the drugs’ side-effects were a concern, an alternative therapeutic strategy was searched.

A combination of strategies was employed to rescue the young woman from her complains and low quality of life. Hence, the patient was supplemented with vitamin D due to her deficiency, supported by the literature on vitamin D in urticaria. A systematic review of 17 studies supported vitamin supplementation [5]. Furthermore, a randomized, prospective, blinded trial demonstrating symptom improvement when a high dose of vitamin D3 supplementation is added to the conventional treatment [6]. Furthermore, this vitamin may improve quality of life, besides the skin symptoms, in 60 chronic urticarial patients who received 20,000IU/day of vitamin D2 [7].

Regarding magnesium, a study evaluating magnesium kinetics in acute urticaria showed low levels of this mineral in urticaria [8].

Stress is a crucial factor related to urticarial pathophysiology. The present patient got some supplements intending to reduce stress, including valerian and 5-hydroxytryptamine [9-11]. And more interesting, 5-hydroxytryptamine seems to have a role in reducing the allergic inflammation [11]. Notably, stress and dysbiosis are vital factors in the urticarial pathophysiology [9,12]. Likewise, quercetin, vitamin A, and glutamine were added to the patient to improve dysbiosis and reduce stress [13,14]. A study in HIV patients using supplementation with glutamine for six weeks was able to show that this short-term dietary supplementation attenuated HIV-associated intestinal dysbiosis [14,15]. It should be stressed that their effects on skin microbiome are unknown.

Mindfulness and relaxation, are mind-body techniques with beneficial results for anxiety therapy. However, no study on mindfulness in urticarial was found in the literature. Briefly, in our patient, we asked her to practice this technique deliberately focusing awareness on everyday activities and savouring pleasant experiences, to stay in a suggested posture with the eyes closed and to observe her attitude, feelings and how attention is directed.

Concerning omega-3, an experimental study suggested that omega-6 and omega-3 series of polyunsaturated fatty acids may be one of the mediators in chronic urticaria [16]. Reinforcing omega-3 over omega-6 is known to improve tissue injury and wound healing [17].

Ascorbic acid or vitamin C has an anti-histaminic action [18]. In this line, it is logical to supplement vitamin C in patients suffering from chronic urticaria.

Future randomized and controlled studies using vitamin D, omega-3, magnesium, and other supplements are desired to confirm the efficacy and quick response observed in the herein described patient.

Other possible expalantions for the patient improvement may be due to the natural history of the disease, changes in exposures, changes in life circumstances, residual effects of pharmacological interventions, neuropathic interventions. Indeed, the patient changed her life style including mindfulness practice and diet changes with gluten-free diet. Regarding natural history of the disease, the general consensus is that about one-third to one-half of patients with chronic urticaria will have remission of their disease within 1 year. More recent studies that have looked at remission rates in children, estimate that remission rates are low and are only about 10.3% per year [Netchiporouk E, Sasseville D, Moreau L, Habel Y, Rahme E, Ben-Shoshan M. Evaluating comorbidities, natural history, and predictors of early resolution in a cohort of children with chronic urticaria. JAMA Dermatol. 2017;153(12):1236–42.]

In conclusion, the present successfully treated woman brings up an alternative, safe and efficacious treatment of chronic urticaria using a holistic approach of nutraceutical supplements and behavioral protocol of mindfulness and relaxation.

Conflict of Interest

None of the authors have conflict of interest.

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Ethical Statement

The authors declare that he followed the World Medical Association Declaration of Helsinki in this study. An informed consent was obtained from the patient for publication of her case.

References


