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Case study of a patient with chronic urticaria and its differential diagnoses

Estudo de caso de paciente com urticária crônica e seus diagnósticos diferenciais

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ABSTRACT
Urticaria is a chronic or acute condition that presents with angioedema and/or urticaria, being a common health problem with several possibilities regarding triggering factors. Among these factors, for this research, autoimmune diseases stand out. In the patient in this case report, in view of the clinical and tests presented, Hashimoto's thyroiditis and systemic lupus erythematosus were considered as points of analysis. The first is an autoimmune disease that affects the thyroid, with IgE as a point in common with urticaria. As for lupus, the lesions, in extreme cases of the disease, have several similarities with the lesions of urticaria. For the diagnosis and treatment of urticaria, it is of great relevance to know associated diseases, seeking greater diagnostic accuracy and specific knowledge of each pathology, for this, it is essential to disseminate characteristic findings in concrete cases.

Keywords: Chronic urticaria, Lupus erythematosus, Hashimoto's thyroiditis.

1 INTRODUCTION

Urticaria is defined as a condition indicated by the onset of angioedema, hives, or both. It is marked by a lesion with central edema of variable size, which is almost always surrounded by an erythema and accompanied by a transient burning and itching sensation, with normalization of the skin usually occurring between 30 minutes and 24 hours (ENSINA, L. *et al,* 2019).

However, its natural course varies and its clinical picture may exceed 6 weeks in duration. Therefore, urticaria can be divided according to its evolution time into acute urticaria (UA) and chronic urticaria (UC) (ZHANG, Y *et al,* 2021).

It is classified as acute urticaria when signs and symptoms persist for a period of less than 6 weeks and chronic urticaria in situations in which they manifest daily, or almost daily, for a time longer than 6 weeks. (TEACH, L. *et al*, 2019). In addition to this general classification, related to their duration, chronic urticaria can be subdivided into spontaneous or induced, with chronic spontaneous urticaria (CSU) being the most common. (ZHANG, Y *et al,* 2021).

CSU is characterized by an urticaria condition that persists for more than six weeks and occurs in the absence of an identifiable triggering factor (LICARI, A *et al,* 2021). On the other hand, chronic induced urticaria (ICndU) is characterized by the presence of some factor that induces its occurrence, which can be specific physical or environmental stimuli such as cold, heat, exercise, pressure, light, among other examples. It is pointed out that each of these causes corresponds to a specific subtype and that, in terms of frequency, the most common types of ICndU are dermographism, cholinergic urticaria, and delayed pressure urticaria. (POZEDERAC, I*, et al,* 2020).

Thus, it should be noted that in addition to being a disease with multiple classifications, according to data presented in the study by Jadhav, R. *et al* (2021), urticaria is a common health problem, with 15-20% of the world's population affected by this disease. Regarding chronic urticaria, Maurer, M, *et al* (2020) point out that Latin America and Asia, with estimates of 1.5 and 1.4% respectively, were the geographic regions with the highest point prevalence. Referring to North America, this has been shown to be the region with the lowest point prevalence, however, the reasons for this are still unclear, requiring global studies.

In view of the above, it is pointed out that the study will be on a female patient who has chronic urticaria, had Hashimoto's thyroiditis and lupus erythematosus as possible causes of the symptoms.

2 OBJECTIVE

To report the case of a patient with urticaria, who, in her outpatient consultation, was raised the diagnostic hypothesis of chronic urticaria triggered by Hashimoto's thyroiditis and supposedly accompanied by the rheumatic disease Lupus erythematosus, and was then placed under investigation for diagnosis.

3 CASE DESCRIPTION

A 26-year-old black woman, nursing technician, presented with urticaria associated with angioedema for 7 months intermittently associated with intense pruritus, redness and edema. She mentions the use of levocetirizine dihydrochloride 5 mg during the crisis as an improvement factor and notices an associated worsening after washing dishes and eating some foods. It is worth mentioning that in recent months urticaria has manifested itself more frequently in the facial region. She also states that her quality of life has been compromised due to the intensity of the symptoms and nocturnal awakenings. At the time of the consultation, she was not in crisis. Among the tests requested in the previous consultation, the ones that presented alterations were: TSH (5.62); Anti-TPO (478); Vitamin D (27.7); Anti SSA/RO antibody (0.8); Anti SSB/LA antibody (0.5); Total IgE (60.9).

The maternal family has a history of atopy. The patient does not use continuous medication. Reported allergy to dipyrone. She has rhinitis and denies other comorbidities. She reported joint pain in her shoulders and left knee, but it did not limit her activities. He also mentioned that he worked for 3 years in contact with Peracetic Acid.

In view of the clinical clinical of chronic urticaria, associated with laboratory tests, it is clear that the triggering factor has a possible autoimmune cause. Thus, Hashimoto's Thyroiditis and Systemic Lupus Erythematosus were interrogated along with referral to Endocrinology and Rheumatology for better diagnostic elucidation.

4 DISCUSSION WITH LITERATURE REVIEW

4.1 HASHIMOTO'S TIREOIDITIS

In the case report, one of the hypotheses investigated was Hashimoto's thyroiditis. This hypothesis was raised because one of the differential diagnoses for the onset of chronic urticaria is the autoimmune disease that affects the thyroid, considering that 40% of patients who have UC are of autoimmune etiology (HURTADO-AVILÉS, 2022).

In an analysis conducted by O Farrill-Romanillos (2019) with 127 patients with chronic spontaneous urticaria (CSU), 99 of the patients were female. In addition, 39% (50 patients) had impaired thyroid function. Among the individuals with thyroid problems, 41 manifested subclinical hypothyroidism (HS) and 14 had IgE antibodies against thyroid peroxidase (Anti-TPO).

The production of Anti-TPO is a consequence of Hashimoto's Thyroiditis, a pathology that produces antibodies and infiltrates that destroy the thyroid gland and causes hypothyroidism (ASBAI, 2018).

However, in urticaria there are two main mechanisms of pathogenesis, one of them being the dysregulation of intracellular signaling pathways in basophils and mast cells, compromising cellular function and defect in the trafficking of these cells. The other mechanism is related to the development of autoantibodies against the IgE receptor (immunoglobulin E) in mast cells and basophils. Both mechanisms trigger the activation of mast cells in the skin and release histamine, which is responsible for causing the symptoms of the disease (DEBBAUT, 2023).

When the patient has Hashimoto's thyroiditis, several types of antibodies are produced that destroy thyroid cells, one of them is of the IgE type. These IgE-type antibodies, when faced with thyroid proteins on the surface of the mast cell in the skin, lead to cell activation, histamine release and, consequently, the formation of urticaria (ASBAI, 2018).

Based on the above, the request for TSH, Anti-TPO, Vitamin D and total IgE is justified. The patient's TSH was 5.62 µU.I./mL, and above 4.5 µU.I./mL is elevated, her anti-TPO was 478 U/mL, and the reference value is less than 15 U/mL. This indicates that the patient probably has Hashimoto's thyroiditis and it is necessary to treat both thyroid disease with hormone replacement and urticaria.

4.2 SYSTEMIC LUPUS ERYTHEMATOSUS

Urticaria and angioedema may be associated with autoimmune diseases, especially collagenosis. For this reason, the hypothesis of Systemic Lupus Erythematosus (SLE) was also raised, a disease of apparently autoimmune etiology, with Chronic Urticaria as a differential diagnosis. The patient is in the epidemiological outline, in which 70% to 90% of cases occur in young black women of childbearing age (MSD MANUAL, 2022). It also has compatible signs and symptoms, since much of what is found in Chronic Urticaria is also present in SLE, such as the phlogistic signs of inflammatory processes, which are multisystemic, in addition to angioedema.

Skin lesions caused by SLE include malar erythema. This erythema usually spares nasolabial folds, although different from UC lesions, papules or welts, which can converge into plaques, in addition to coexisting and being triggering causes of both factors (GELLER, 1995).

In more extreme cases, such as subacute lupus erythematosus, the lesions are very similar to those of urticaria. Commonly, they burn more than they itch and float in appearance. These non-healing lesions appear predominantly in sun-exposed areas of the body from hours to days after significant exposure, usually lasting from days to weeks. In addition, they have subtle epithelial alterations, clinically observed as a fine scale (often in the periphery of the lesions), which helps in distinguishing UC lesions (Brodell, 2008).

Considering that the patient fits into the epidemiological zone, complains of joint pain, the similar picture, the possibility of these being coexisting with Systemic Lupus Erythematosus, the request for anti-SSA/RO antibody and anti-SSB/LA antibody is justified. These are more specific, the latter being used to screen for Sjögren's Syndrome, which is often confused with SLE.

5 CONCLUSION

Chronic urticaria is a heterogeneous, persistent, and debilitating disease. Diagnosis requires a detailed medical history, physical examination, and laboratory (antibodies), as well as provocation tests. Some diseases, such as Hashimoto's Thyroiditis and Systemic Lupus Erythematosus, can manifest with urticaria lesions, and it is important to know them to effectively diagnose and treat these symptomatic conditions. Identifying the subtype of chronic urticaria is necessary to optimize multidisciplinary treatment and improve the patient's quality of life.

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