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Chronic Urticaria as the Sole Clinical Manifestation of Autoimmune Thyroid Disease: A Case Report

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Abstract

Chronic urticaria (CU) is defined as the spontaneous appearance of wheals, angioedema, or both for more than six weeks. In many cases, the cause remains idiopathic; however, increasing evidence supports a strong association with autoimmune disorders, particularly autoimmune thyroid disease (AITD). While thyroid dysfunction is typically considered in the presence of systemic symptoms such as fatigue, weight changes, or menstrual irregularities, CU may occasionally be the sole clinical manifestation. We present the case of a 32-year-old woman who attended an outpatient clinic with a 3-month history of daily itchy wheals without identifiable triggers. Antihistamines provided minimal relief, and no systemic symptoms were reported. Physical examination revealed typical urticarial wheals with no other abnormalities. Initial blood work was unremarkable. Given the chronicity and lack of response to standard therapy, autoimmune screening was performed. Thyroid-stimulating hormone (TSH) and free T4 were within normal limits; however, anti-thyroid peroxidase (anti-TPO) and anti-thyroglobulin antibodies were markedly elevated, confirming the presence of autoimmune thyroiditis. Although the patient was euthyroid, she was started on low-dose levothyroxine in consultation with an endocrinologist. Within four weeks, a significant reduction in urticaria frequency and severity was noted. This case highlights the importance of considering autoimmune thyroid disease in patients with refractory CU, even in the absence of thyroid dysfunction. It also underscores the potential benefit of levothyroxine in managing autoimmune-related urticaria. Primary care and outpatient clinicians should maintain a high index of suspicion for AITD in idiopathic CU, as early diagnosis and intervention can significantly improve patient outcomes and quality of life.

Introduction

Chronic urticaria (CU) affects approximately 0.5%–1% of the population and can significantly impair quality of life. It is characterized by the presence of transient, pruritic wheals for six weeks or more. 1,2 While most cases are idiopathic, up to 30–50% may have an autoimmune basis. Autoimmune thyroid disease (AITD), especially Hashimoto's thyroiditis, is one of the most frequently reported associations. 3,4 In many patients, thyroid dysfunction is not yet clinically apparent, and CU may be the first or only presenting feature. 5 We report a case of chronic urticaria in a young woman in whom autoimmune thyroid disease was diagnosed solely based on elevated thyroid autoantibodies.

Case Presentation

A 32-year-old female presented to our outpatient clinic with a three-month history of daily, generalized, itchy wheals. The wheals resolved spontaneously within a few hours but recurred daily. She denied angioedema, fever, joint pain, weight changes, or any other systemic complaints. She had no history of allergies, infections, or new medications. Physical examination revealed erythematous, raised wheals scattered across her trunk and limbs; there were no signs of thyroid enlargement or systemic illness.

Initial laboratory tests, including complete blood count, liver and renal

function tests, and erythrocyte sedimentation rate, were normal. Given the chronicity and unresponsiveness to second-generation antihistamines, further evaluation was undertaken. Thyroid function tests revealed a normal TSH (2.5 mIU/L) and free T4 (1.1 ng/dL). However, autoimmune screening showed elevated anti-TPO (225 IU/mL; reference <35 IU/mL) and anti-thyroglobulin antibodies (165 IU/mL; reference <40 IU/mL), consistent with autoimmune thyroiditis. Antinuclear antibody and complement levels were within normal range.

She was referred to an endocrinologist, and despite euthyroid status, a low-dose levothyroxine (25 mcg/day) was initiated. After four weeks, she reported marked improvement in symptoms, with only occasional mild urticaria episodes. At three months, she was symptom-free without antihistamines.

Discussion

This case underscores the association between chronic urticaria and autoimmune thyroid disease, particularly in patients without systemic thyroid symptoms. The exact mechanism is not fully understood, but thyroid autoantibodies may lead to activation of mast cells or disrupt normal immune regulation, contributing to histamine release and urticaria. 4,5 Studies have demonstrated improvement in urticaria symptoms following levothyroxine therapy, even in euthyroid individuals with positive thyroid antibodies. 6

Guidelines from the EAACI/GA2LEN/EDF/WAO support screening for thyroid antibodies in CU patients with no identifiable cause, especially when symptoms are resistant toantihistamines. Primary care clinicians should consider AITD in the differential diagnosis of chronic idiopathic urticaria and not rely solely on thyroid hormone levels. 4,5

Conclusion

Chronic urticaria can be the first and only clinical clue to underlying autoimmune thyroid disease. Screening for thyroid antibodies should be considered in patients with idiopathic, antihistamine-resistant urticaria, even when thyroid function tests are normal. Early recognition and appropriate treatment of AITD may lead to significant symptomatic improvement and prevent progression of autoimmune disease.

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