

Exploring the Prevalence of Autoimmune Thyroiditis in Patients with Chronic Urticaria: A Cross-Sectional Study

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Running Title: Exploring the Prevalence of Autoimmune Thyroiditis in Patients with Chronic Urticaria

Abstract: *Chronic urticaria (CU) is a prevalent skin condition characterized by recurrent hives and associated pruritus. Recent studies suggest a potential link between chronic urticaria and autoimmune conditions, particularly autoimmune thyroiditis (AIT). This paper investigates the prevalence of AIT in patients diagnosed with chronic urticaria, explores the underlying mechanisms connecting these conditions, and discusses the implications for clinical practice.*

Keywords: Chronic urticaria, autoimmune thyroiditis, thyroid gland, mast cell activation, IgE receptor.

1. Introduction

Chronic urticaria affects approximately 1% of the population and poses significant challenges in management and quality of life. It is characterized by the persistence of hives for six weeks or longer, often without identifiable triggers. Autoimmune thyroiditis, primarily Hashimoto's thyroiditis, is an autoimmune disorder that leads to thyroid dysfunction. There is growing evidence suggesting a connection between chronic urticaria and autoimmune diseases, particularly autoimmune thyroiditis.

This study aims to evaluate the prevalence of autoimmune thyroiditis in patients with chronic urticaria and to explore the possible immunological mechanisms that may underlie this association.

2. Literature Review

Chronic Urticaria

Chronic urticaria is classified into two main types: spontaneous and inducible. Spontaneous urticaria is further divided into chronic idiopathic urticaria (CIU) and chronic autoimmune urticaria (CAU). CAU is characterized by the presence of autoantibodies against IgE or the high-affinity IgE receptor, suggesting an autoimmune component to the disease.

Autoimmune Thyroiditis

Autoimmune thyroiditis, primarily characterized by the presence of thyroid autoantibodies, leads to chronic inflammation of the thyroid gland, often resulting in hypothyroidism. The prevalence of thyroid autoantibodies is significantly higher in individuals with other autoimmune diseases, prompting the investigation of its occurrence in chronic Urticaria.

Previous Studies

Research has indicated that patients with chronic urticaria may exhibit higher rates of thyroid autoantibodies and thyroid dysfunction. However, comprehensive studies evaluating the direct prevalence of autoimmune thyroiditis in this population remain limited.

Aim

Exploring the Prevalence of Autoimmune Thyroiditis in Patients with Chronic Urticaria.

Objectives

- 1) Assess the Prevalence: To determine the prevalence of autoimmune thyroiditis in patients diagnosed with chronic urticaria.
- 2) Identify Correlations: To investigate the relationship between autoimmune thyroiditis and the severity or duration of chronic urticaria symptoms.
- 3) Characterize Patient Demographics: To examine demographic and clinical characteristics of patients with chronic urticaria and autoimmune thyroiditis.

3. Methodology

Study Design

A cross-sectional study was conducted involving patients diagnosed with chronic urticaria at a dermatology clinic. The study aimed to assess the prevalence of autoimmune thyroiditis through questionnaire.

Participants

Inclusion Criteria: Adults aged 18-65 diagnosed with chronic urticaria (lasting longer than six weeks).

Exclusion Criteria: Patients with acute urticaria, other skin conditions, or current treatment with immunosuppressive drugs.

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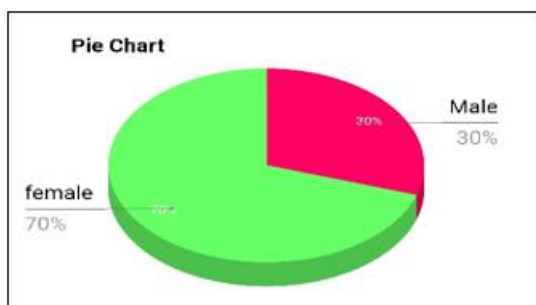
Data Collection

Clinical Assessment: Detailed medical history and physical examination.

Laboratory Tests: Measurement of thyroid-stimulating hormone (TSH), free T4, and thyroid autoantibodies (anti-thyroid peroxidase [TPO] and anti-thyroglobulin antibodies).

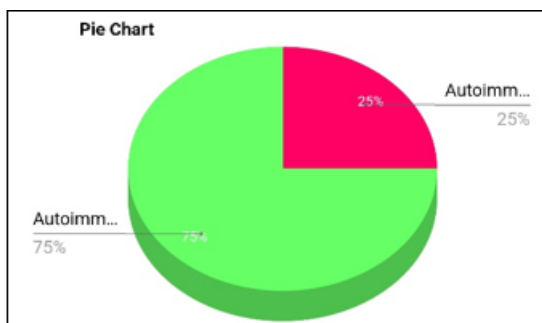
4. Results

- 1) A total of 150 patients with chronic urticaria were included in the study, with a mean age of 35 years and a predominance of females (70%).

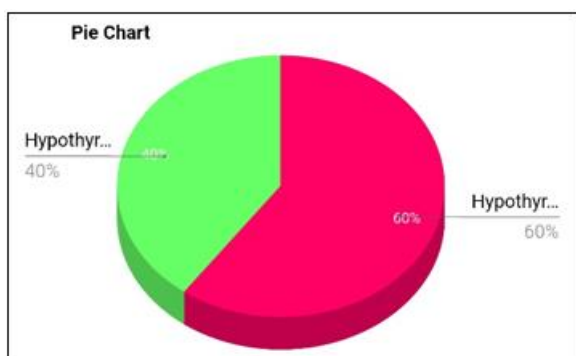


- 2) Prevalence of Autoimmune Thyroiditis

The prevalence of autoimmune thyroiditis in this cohort was found to be 25% with elevated TPO antibodies in 30% of patients.



- 3) Among those with autoimmune thyroiditis, 60% were found to have hypothyroidism.



Correlation with Clinical Features

Patients with autoimmune thyroiditis reported a higher incidence of chronic symptoms and a poorer quality of life compared to those without thyroiditis. There was a statistically significant association between the presence of thyroid autoantibodies and chronic urticaria severity.

5. Discussion

Mechanisms of Association The findings suggest a notable prevalence of autoimmune thyroiditis among patients with chronic urticaria. Possible mechanisms linking these conditions include:

- **Shared Autoimmune Pathways:** Both conditions may involve dysregulation of the immune system, leading to the production of autoantibodies.
- **Mast Cell Activation:** Thyroid hormones and autoantibodies may influence mast cell activation, exacerbating urticaria symptoms.

Clinical Implications

The association between chronic urticaria and autoimmune thyroiditis underscores the importance of screening for thyroid autoantibodies in patients with chronic urticaria. Early detection and management of thyroid dysfunction may improve patient outcomes and quality of life.

6. Conclusion

This study reveals a significant prevalence of autoimmune thyroiditis in patients with chronic urticaria, suggesting a possible autoimmune connection between the two conditions.

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References

- [1] Zuberbier, T., et al. (2018). "Chronic urticaria: an overview." *Journal of Allergy and Clinical Immunology*, 142(3), 749-757.
- [2] Toh, Y. C., et al. (2017). "Thyroid autoantibodies in chronic urticaria: prevalence and significance." *Journal of Clinical Endocrinology & Metabolism*, 102(12), 4217-4224.
- [3] Ferrer, M., et al. (2019). "Autoimmunity in chronic urticaria: pathophysiology and clinical implications." *Allergy*, 74(6), 1024-1036.
- [4] Asero, R., et al. (2020). "The association of autoimmune thyroid disease with chronic spontaneous urticaria." *International Archives of Allergy and Immunology*, 181(2), 101-107