



Original Research

The Etiological Evaluation of Patients with Chronic Urticaria

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Abstract

Objectives: Chronic urticaria (CU) is a common skin disease characterised by skin lesions and angioedema lasting longer than six weeks. Although many factors, such as autoimmune diseases, infections, drugs and malignities, are blamed in the etiology, no reason can be found in a significant majority of the patients. The present study aims to investigate the factors which have a role in the etiology in patients diagnosed with CU.

Methods: Sixty-two patients who were followed-up with the diagnosis of CU in the Allergy Polyclinic of Dermatology Clinic were retrospectively evaluated in this study. The clinical and laboratory data of the patients were obtained from the patient files and the hospital automation system. The obtained data were given as a number and percentage for the categorical variables and as mean, standard deviation, minimum, and maximum for the numerical variables.

Results: The patient group consisted of 33 women (53.2%), and 29 men (46.8%), with 62 patients. The prevalence of angioedema was calculated as 51.6%, and the accompanying physical hives was calculated as 40.3%. Autoimmune disease was accompanying in 14 (22.6%) patients, and coexisting infection was detected in 15 (24.2%) patients. Thyroid autoantibodies were detected positive in 24.5% of the patients, and helicobacter pylori (*H.pylori*) antigen was found positive in 69% of the patients.

Conclusion: Autoimmune thyroid diseases and infections are frequently detected as the accompanying diseases in patients diagnosed with CU.

Keywords: Etiology; chronic; urticaria.

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Urticaria is a very common skin disease in the community, characterized by erythematous, edematous, itchy skin lesions that regress-displace spontaneously within 24 hours. Mucosal lesions called angioedema are often seen under the skin. It is classified into two main groups, acute and chronic. Urticarial lesions appearing almost every day lasting longer than six weeks are called chronic urticaria (CU).^[1] CU is a severe disease that affects patients' daily life and quality of life. Its prevalence has been reported as 0.5-6% in different parts of the world, it is most commonly seen in young adults between the ages of 20-40, and it affects twice more women than men.^[2, 3] Although infections,

drugs, autoimmune diseases, malignancies, foods, and psychological factors are held responsible for their etiology, no etiological factor can be detected in the majority of patients.^[3] The present study aims to investigate the factors in the etiology of patients with CU.

Methods

This study included 62 patients aged over 18 who were diagnosed with CU at the Dermatology Clinic Allergy Out-patient Clinic and followed up between February and September 2018. Patients exhibiting only physical urticaria were excluded from this study. Demographic and clinical

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cal data for the patients were obtained from patient files, while laboratory data were obtained from patient files and the automation system. SPSS 15.0 for Windows was used for statistical analysis. For descriptive statistics, numbers and percentages were given for categorical variables, and mean, standard deviation, minimum, and maximum were given for numerical variables.

Results

The study group consisted of 62 patients, 33 (53.2%) female and 29 (46.8%) male. The average age of the patients was calculated as 41.0 ± 13.2 , while the average duration of illness was calculated as 44.6 ± 55.1 months. Angioedema was present in 51.6% of the patients and physical urticaria in 40.3%. The demographic and clinical characteristics of the patients are summarized in Table 1.

At least one autoimmune disease was seen in 14 (22.6%) patients (autoimmune thyroid disease in 12 patients, vitiligo in two patients, Sjogren syndrome in one patient), and a concomitant infection was seen in 15 (24.2%) patients. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were high in 40.4% and 24.1% of the patients, respectively. At least one thyroid autoantibody (thyroid peroxidase 24.5%, anti-thyroglobulin 24.5%) was found in 28.5% of the patients and 69 of them tested positive for helicobacter pylori antigen. The total IgE average was calculated as 243.5 ± 330.1 . Laboratory findings for the patients are summarized in Table 2.

| Demographic and clinical features | n (%) |
|---|-------------------------|
| Gender, n (%) | |
| Female | 33 (53.2) |
| Male | 29 (46.8) |
| Age (year) mean \pm SD (min-max) | 41.0 \pm 13.2 (18-74) |
| Age at disease onset (year) mean \pm SD (min-max) | 37.4 \pm 13.0 (7-74) |
| Disease duration (month) mean \pm SD (min-max) | 44.6 \pm 55.1 (1-180) |
| Angioedema | 32 (51.6) |
| Physical urticaria | 25 (40.3) |
| Accompanying autoimmune disease | 14 (22.6) |
| Autoimmune thyroid disease | 12 (19.3) |
| Vitiligo | 2 (3.2) |
| Sjogren's syndrome | 1 (1.6) |
| Accompanying infection | 15 (24.2) |
| Urinary system infection | 6 (9.6) |
| Upper tract infection | 5 (8) |
| Other | 4 (6.2) |
| UAS7 mean \pm SD (min-max) | 12.6 \pm 10.7 (0-40) |

UAS7: Urticaria activity score7; SD: Standart deviation.

Table 2. Laboratory findings of patient group

| Laboratory findings | Mean \pm SD (min-max) |
|--------------------------------|------------------------------|
| WBC μ l/ml | 8.1 \pm 2.9 (3.9-20.8) |
| EO μ l/ml | 0.20 \pm 0.15 (0.02-0.70) |
| EO% | 2.47 \pm 1.88 (0.1-9.1) |
| CRP (>5 mg/L) | 23 (40.4) |
| ESR (>20 mm/h) | 13 (24.1) |
| TSH mIU/L | 21.2 \pm 145.8 (0.3-1112) |
| FT4 ng/dL | 1.43 \pm 1.94 (0.62-10.4) |
| Positive antityroidperoksidase | 12/49 (24.5) |
| Positive antityroglobulin | 12/49 (24.5) |
| IgE mean \pm SD (min-max) | 243.5 \pm 330.1 (7.8-1883) |
| (>89 μ g/L) | 34 (61.8) |
| Positive H.pylori antigene | 9/13(69) |

Discussion

Urticaria is a commonly occurring skin disease. It has been reported that 15-25% of the population experiences one urticaria attack, and 0.1-1% develop chronic urticaria. Chronic urticaria is most common in women and young adults between 20 and 40 years of age. The average age of the patients in this study was calculated as 41.0 ± 13.2 and the ratio of women as 53.2% and the patients' demographic data were in keeping with the literature. It has been reported that angioedema is seen in 50% of patients and physical urticaria in one-third of patients (4). In this study, angioedema was seen in 51.6% of the patients and physical urticaria in 40.3%, which is consistent with the literature.

Studies of the etiology of chronic urticaria have revealed evidence of various types pointing to autoimmune diseases, infections, drugs, and foods. However, etiological factors cannot be detected in a significant number of patients, and, in this regard, the Turkish guidelines for the diagnosis and treatment of urticaria stress the need for routine hemograms, CRP, and ESR in patients with chronic urticaria, and for other detailed tests to be chosen depending on the patient's history.^[3] Hemogram, CRP, and ESR were routinely asked from the patients in our group, too, and H, pylori antigen, thyroid function tests and autoantibodies, urinalysis were requested for patients with indications depending on patient anamnesis and examination findings.

The role of autoimmunity has come to the fore in studies on pathogenesis in recent years. In 45-55% of patients, there are IgG antibodies formed to counter the Fc ϵ R1 α of the high-affinity IgE receptor and IgE.^[1, 5] The association of urticaria with autoimmune and atopic diseases has been demonstrated in cohort studies involving large patient groups. It has been reported that the frequency of thyroid diseases, type 1 diabetes mellitus, systemic lupus erythe-

matusus, and rheumatoid arthritis is higher in these patients.^[5] Thyroid disease is the autoimmune disease most frequently seen in patients with urticaria. In their study comparing CU patients with healthy volunteers, Angulo et al. found thyroid autoantibodies in CU patients at a positive rate of 26.8% while Cebeci et al. found them at a positive rate of 29%.^[6,7] Akarsu et al.^[8] found anti-thyroid peroxidase positive in 9.6% of the patients and anti-thyroglobulin positive in 4.8%. In this study, thyroid peroxidase was positive in 24.5% of patients and anti-thyroglobulin positive in 24.5%. These findings are consistent with the literature and show that autoimmune thyroid diseases are frequently seen in patients with CU.

Infections are particularly involved in the pathogenesis of acute urticaria, and they appear to trigger attacks in chronic urticaria. However, there is a great deal of evidence that helicobacter pylori (*H. pylori*) are involved in CU pathogenesis. Studies have found significantly higher levels of *H. pylori* antigen in patients with chronic urticaria compared with the control group. In some studies, the significant reduction in symptoms together with eradication in these patients supports the role of *H. pylori* in pathogenesis. Pawlowics et al. found *H. pylori* in patients at a positive rate of 75%, while Zhelevnov et al. found it positive at a rate of 72.2%. In this study, *H. pylori* antigen was checked in 13 patients with upper gastrointestinal symptoms in their anamnesis, and it was found positive in nine patients (69%), similar to the literature. Although *H. pylori* infection is common in patients with chronic urticaria compared with the general population, the data regarding the regression of urticaria lesions with eradication treatment are contradictory, so the involvement of *H. pylori* in CU pathogenesis is not clear.

When other laboratory findings indicative of infection were evaluated, CRP was high in 40.4% of the patients, and ESR in 24.1% of the patients. Trachsel et al. reported CRP in 16% of patients and ESR in 2%, while Akarsu et al. reported high CRP in 38.4% of patients and high ESR in 50%.^[8, 11] Since high CRP and ESR may be an indicator of infection as well as an indicator of urticaria activation, other signs of infection should be examined in these patients.

In a systematic review examining 6.462 CU patients, a factor that could cause urticaria was found in 38% of the patients; these diseases were reported as infections (0-31%) and thyroid diseases (16.2%).^[12] Similarly, in this study, a cause determined by anamnesis and laboratory findings was found in 30 (48.3%) of the patients. The literature data and the findings we obtained in this study showed that the majority of patients with urticaria still had no underlying etiological factors.

The small number of patients and the missing data in the patient files and automation system constitute the most important limiting factors in this study.

In this study, autoimmune thyroid disease and infections were higher in patients with CU in parallel with other studies in the literature. However, no etiological factors were found in half of the patients.

Disclosures

Ethics Committee Approval: The study was approved by the Şişli Hamidiye Etfal Training and Research Hospital local ethics committee.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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