Clinical Observations on Acute and Chronic Urticaria: A Comparative Study

Altunay IK1, Demirci GT2* and Atis G3

1Dermatology Department, Sisli Etfal Teaching and Research Hospital, Istanbul, Turkey
2Department of Ophthalmology, Duze Governmnet Hospital, Duze, Turkey
3Department of Urology, Goztepe Training and Research Hospital, Istanbul, Turkey

Introduction

Urticaria has been known since Hippocrates, but first description has been made by Herberden in 1772. [1,2] It is characterized by typical lesion urtica or wheal an erythematous, usually pruritic papule or plaque that appears and disappears over relatively short periods of time. It is one of the most common dermatologic problems and 20-30% of individuals have at least one attack of urticaria in their lifetime. [3-7] The most commonly used classification of urticaria is based on duration of its manifestations. When urticaria is present for less than six weeks, it is termed acute urticaria (AU). If wheals continue for longer than six weeks, the urticaria is termed chronic urticaria (CU). [2-4] The prevalence of the urticaria is the same in both gender. AU predominantly affects young population whereas CU predominantly affects middle-aged women. [7] Wheals show many variation in colour, size and shape. [6] If most wheats are red, it is called urticaria rubra. If the edema is severe enough, the blood flow may be restricted, producing white tones; then it is called urticaria porcellanea. When the size of the lesions is several centimeters to diameter to enormous plaques covering whole body segments, it is called urticaria gigantea. As the lesions spread peripherally, they may clear centrally or intersect and it is called urticaria annularis. If polyyclic or maphlike patterns are present, it is termed urticaria circinata. If the swelling is in the deep dermis or subcutaneous tissue, then only a deep mass is seen or palpated and it is called urticaria profunda. Bullous wheals associated with multiple insect bites presents urticaria bullosa. There may also be exocytosis of erythrocytes, producing hemorrhagic wheal which is called urticaria hemorraghica [6].

Common causes of urticaria are drugs, infections, parasites, food and food colours, systemic disease, psychogenic factors, autoimmune disease, atopy, endocrine disease and malignancy. An etiological cause of AU is often detected anamnestically or in laboratory investigations; whereas, triggering factors in approximately 70 % of patients with CU can not be found. [3,8-11] AU is more common and is characterized with more severe symptoms at onset, which may be life threatening. Clinical symptoms of CU are often less but much more troublesome than those of AU, CU may have highly variable etiological factors and duration [12].

Our purpose was to evaluate differences between acute and chronic urticaria regarding sociodemographic factors such as age, gender, marital status, etc and also clinical presentations with response to therapies in detail and to evaluate the differences statistically.

Method

This prospective study was carried out in Dermatology Department of Sisli Etfal Training and Research Hospital between 30 September 2009-30 March 2011. Randomly selected 84 patients (59 woman, 25 man) with urticaria were included in the study. Patients with urticarial vasculitis and physical urticaria were excluded. Demographic data, history of disease, clinical features, urticaria activity score (UAS), the presence of allergy, morphology and localization of lesions were registered to a standart form. UAS consisted of the sum of wheal number score and the itch severity score. The numbers are graded from 0 to 3 as follows: 0-less than 10 small wheals (diameter, <3 cm); 1-10 to 50 small wheals or less than 10 large wheals (diameter, >3 cm); 2- greater than 50 small wheals or 10 to 50 large wheals; and 3- almost to whole body is covered. [12] Laboratory parameters, accompanying symptoms, the presence of angioedema, systemic and dermatologic diseases were also evaluated. All patients were examined in the 2nd week, 4th week, 6th week and their UAS’ were recorded. After the end of the eighth week, the patients separated into two groups as AU and CU regarding the clinical improvement. Oral non-sedating H1 antihistamincs, desloratadine 5mg /day and fexaphenadine 180 mg/day were given as first line treatments and systemic steroids, colchisine, antidepressants were added to nonresponders to antihistaminics. All data were compared by chi-square statistical analysis in AU and CU. P ≤ 0.05 was accepted as statistically significant.

Results

The study included 84 patients with urticaria; 57 (70.2 %) were female, 27 (29.8%) were male. Age range was 2 to 74 years. 52 (61.9%) patients were grouped as AU, 32 (38,1%) patients as CU after the end of the 6th week. 32 of 84 patients (%38,09) turned to chronic urticaria. Among patients with AU and CU, no statistically significant difference was found regarding gender, marital status, education level. (p=0.05). (Table 1) Occupations of all patients were registered: 32 patients were (38,1%) housewives, 24 patients (28,5%) workers, 12 patients (14,2%) students, 5 patients (6%) accountants, 5 patients (6%) retired people, 2 patients (2,4%) toddler, 1 patient (1,2%) counselor, 1 patient (1,2%) actor, 1 patient (1,2%) cook and 1 patient (1,2%) a doctor. Occupational status of patients with AU and CU did not demonstrate statistically significant difference. (p : 0.844) (Table 1).

Morphologic patterns of wheals were assessed in all patients. In AU group, plaques with annular morphology in 38 patients (73,4%), plaques with annular-circinate morphology in 5 patients (9,5%), papuler lesions in 3 patients (5,7%), plaques with gigantea morphology...
in 2 patients (3.8%), plaque with circinate morphology in 1 patient (1.9%), plaque with gigantea–annular morphology in 1 patient (1.9%) and plaque with profunda-annular morphology in 1 patient (1.9%) were observed. In CU group, plaques with annular morphology in 22 patients (69%), plaque with papular-annular morphology in 4 patient (12.4%), papular lesions in 3 patients (9.3%), plaque with profunda-annular morphology in 1 patient (3.1%) and plaques with circinate morphology in 1 patient (3.1%) were observed (Table 2).

Distribution of lesions were evaluated. Wheals were widespread throughout the body in 34 of 52 patients with AU (65.8%). Lesions on the trunk in 10 patients (19%), on the limbs in 6 patients (11.4%) and on the head in 2 patients (3.8%) were detected. When CU patients are considered, lesions were widespread throughout the body in 16 of 32 patients (50%). Lesions on the trunk in 11 patient (34.4%), on the limbs in 5 patients (15.6%) were detected. Morphological characteristics and localizations were compared in both groups. Statistically significant difference was not found. (p>0.05)

As for dermatological symptoms, 26(50%) had itching, 23 patients (44.3%) had itching and burning, 1 patients (1.9%) had burning and stinging, 1 patient (1.9%) had itching and pain 1 patient (1.9%) had burning and pain in AU group. 18 patients had itching (56.6%), 10 patients had itching and burning (31%), 4 patients had burning and stinging (12.4%) in CU group. There were no statistically difference.

Systemic symptoms were evaluated in both groups. In AU group; 21 patients (40.4%) showed different symptoms such as headache, abdominal pain-diarrhea, funny turn feeling, muscle-joint pain, fatigue, shortness of breath, dysphagia, and 31 patients (59.6%) had no systemic symptoms. In CU group; 12 patients (22%) had systemic symptoms such as artralgia, headache, dizziness, dyspnea, funny turn feeling, weakness and insomnia. 20 patients (62.5%) had no systemic symptoms. When both groups were compared for the presence of systemic symptoms, although AU was associated with more systemic symptoms, statistically significant difference did not exist. (p>0.793) (Table 2).

When UAS was compared at first visit in both groups, UAS of 18 patients (35.4 %) were 3, of 15 patients (28.5%) were 2, of 10 patients (19 %) were 0 and of 9 patients (17.1%) were 1 in AU group. UAS of 13 patients (41 %) were 0, of 10 patients (31%) were 1, of 4 patients (12.5%) were 2 and 5 patient (15.5%) were 3 in CU group. Statistically significant difference was found. (p<0.05) (Table 3) 13 patients (25%) in AU group had angioedema, whereas 5 patients (15.6%) in CU group had angioedema. Statistically significant difference was not found between the two groups. (p>0.313) 10 patients (19.2%) with AU had systemic disease whereas 14 patients (43.4%) with CU had systemic disease. Presence of systemic disease were statistically different. (p>0.018) (Table 4) Percentages presence of another dermatologic disease were similar in both groups and statistical difference was insignificant. (p>0.05). The routine biochemical and urine tests, common blood count, erytrocyte sedimentation rate were performed to all the patients at the first visit. There was no statistically difference between the abnormal results of laboratory investigations of the AU and CU patients.

Patients whose UAS’ did not decrease while taking non-sedating H1 oral antihistaminics (desloratadine 5mg /day and fexophenadynce 180 mg/day) we gave systemic steroids or colchicine additionally. Therapy responses were found to be different when both groups were compared. At the end of the second week, we found oral antihistaminics were adequate in 42 patients with AU (80.8%). In 23 patients (71.9%) with CU antihistaminic drugs were adequate alone while systemic steroid therapy was needed to add to antihistaminic drugs in 10 patients (19.2 %) with AU, it was only needed in 9 patient (28.1%) with CU. At the end of the 4th week, in patients with CU, colchicine therapy and antidepressant therapy were added to antihistaminic and/or systemic steroid therapy differently (Table 5). Response to therapy were evaluated at 8th week, 52 patients (100%) with acute urticaria had no lesions and UAS was 0 whereas 7 patient (21.9%) with CU had no lesions and UAS was 0. Response to treatment was statistically significant. (p<0.000)

Discussion

Acute and chronic urticaria seem to be different in some ways such as causal factors, clinical presentations and courses and responses to treatment. There was some different symptoms such as artralgia, headache, dizziness, dyspnea, funny turn feeling, weakness and insomnia. It was observed that systemic symptoms were statistically different. (p<0.018) (Table 4). Percentages presence of another dermatologic disease were similar in both groups and statistical difference was insignificant. (p>0.05). The routine biochemical and urine tests, common blood count, erytrocyte sedimentation rate were performed to all the patients at the first visit. There was no statistically difference between the abnormal results of laboratory investigations of the AU and CU patients.

Patients whose UAS’ did not decrease while taking non-sedating H1 oral antihistaminics (desloratadine 5mg /day and fexophenadynce 180 mg/day) we gave systemic steroids or colchicine additionally. Therapy responses were found to be different when both groups were compared. At the end of the second week, we found oral antihistaminics were adequate in 42 patients with AU (80.8%). In 23 patients (71.9%) with CU antihistaminic drugs were adequate alone while systemic steroid therapy was needed to add to antihistaminic drugs in 10 patients (19.2 %) with AU, it was only needed in 9 patient (28.1%) with CU. At the end of the 4th week, in patients with CU, colchicine therapy and antidepressant therapy were added to antihistaminic and/or systemic steroid therapy differently (Table 5). Response to therapy were evaluated at 8th week, 52 patients (100%) with acute urticaria had no lesions and UAS was 0 whereas 7 patient (21.9%) with CU had no lesions and UAS was 0. Response to treatment was statistically significant. (p<0.000)
Acute Urticaria

Some patients with urticaria have only cutaneous symptoms whereas some patients have systemic symptoms such as headache, joint pain, gastrointestinal complaints as well. [15,16] The extractable symptoms can be explained as systemic effects of the inflammatory mediators (mainly histamine) released from the cutaneous mast cells and the local effects of the activation and degranulation of extractable mast cell population. [4] The most frequent symptoms in our patients with AU were headache, abdominal pain-diarrhea, feeling funny turn, muscle-joint pain, fatigue, shortness of breath, dysphagy, which are derived from inflammatory mediators. The systemic symptoms in patients with CU were probably caused by chronic disease stress and they were ranked as headache, feeling funny turn, insomnia and dizziness. Silvares et al. detected arthralgia and chronic headache as the most common systemic symptoms in patients with chronic urticaria and angioedema similarly to our study. [17] In the same study CU and angioedema were accompanying with some dermatological diseases such as fungal infection, acne vulgaris, pityriasis versicolor, xeroderma, seborrheic dermatitis and other dermatoses. [17] The most common accompanying dermatological diseases were acne vulgaris, atopic dermatitis, lichen simplex chronicus, xeroderma, pityriasis versicolor, alopecia areata, eczema, palmoplantar psoriasis and psychogenic pruritus in our study. Our results about accompanying dermatological diseases are very similar to those in the literature. The diseases are not specifically associated with urticaria, they are very common dermatological disease in the society.

Systemic symptoms were found to be statistically higher in CU than AU. We think that this difference would be come out of the older mean age of CU group.

Response to therapy may be different in both AU and CU. Actually, treatment modalities are different in both urticarias because of different characteristics such as course, clinical severity, the presence of angioedema and/or systemic symptoms. AU is an acute medical situation and needs emergency conditions in some cases. [18] The main purpose in therapy is to eliminate clinical manifestations. Some AU cases subside in a short period and has self-limited course. Treatment in CU is focused on eliminating of etiological factor and may last very long. Therefore, it is not suprising to expect better therapy outcome in AU in spite of severe clinical course, coexistence of systemic symptoms and angioedema. [19] We obtained statistically meaningful response difference between AU and CU.

**Conclusion**

Patients in both groups do not show statistically significant difference in term of gender, age, marital status, education level, lesion morphology, localization of lesions, accompanying dermatologic and systemic symptoms. The statistically differences were found in UAS’, responses to treatments and co-morbid diseases. The UAS were found to be higher tin AU than CU. Although AU has more severe clinical course than CU, its response to therapy is much better than CU. Results of treatment are mostly successful as a complete remission occurred sometimes with only antihistaminics. CU is a very challenging type of urticaria for complete cure and it is difficult to succeed that each time.

**References**


**Table 4:** Systemic and accompanying dermatological diseases in patients with acute and chronic urticaria

<table>
<thead>
<tr>
<th>With systemic Disease</th>
<th>Acute Urticaria</th>
<th>Chronic Urticaria</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>10(19%)</td>
<td>14(43,4%)</td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Glaucoma</td>
<td>1(1,9%)</td>
<td>5(15,5%)</td>
<td></td>
</tr>
<tr>
<td>Gout</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>1(1,9%)</td>
<td>2(6,2%)</td>
<td></td>
</tr>
<tr>
<td>Hypertension-Depression</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Migraine and diabetes mellitus</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td>0,018</td>
</tr>
<tr>
<td>Diabetes mellitus-Depression</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Hashimoto thyroditis</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Basedow-Graves Disease</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Depression and gashtitis</td>
<td>1(1,9%)</td>
<td>1(3,1%)</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>18(56,6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With no demographic disease</td>
<td>42(81%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5:** The responses to the treatments in patients with acute and chronic urticaria at the end of the 8th week.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Acute Urticaria</th>
<th>Chronic Urticaria</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD^1</td>
<td>42(80,8%)</td>
<td>23(71,9 %)</td>
</tr>
<tr>
<td>AD^1 and SST^1</td>
<td>10 (19,2%)</td>
<td>7(21,9%)</td>
</tr>
<tr>
<td>AD^1 and Colchicine</td>
<td>1 (3,1%)</td>
<td></td>
</tr>
<tr>
<td>AD^1 and SST^1 and antidepressant therapy</td>
<td>1 (3,1 %)</td>
<td></td>
</tr>
</tbody>
</table>

AD^1:Antihistaminis Drugs. SST^1:Systemic Steroid Therapy

**Conclusion**

Patients in both groups do not show statistically significant difference in term of gender, age, marital status, education level, lesion morphology, localization of lesions, accompanying dermatologic and systemic symptoms. The statistically differences were found in UAS’, responses to treatments and co-morbid diseases. The UAS were found to be higher tin AU than CU. Although AU has more severe clinical course than CU, its response to therapy is much better than CU. Results of treatment are mostly successful as a complete remission occurred sometimes with only antihistaminics. CU is a very challenging type of urticaria for complete cure and it is difficult to succeed that each time.

**References**


