Journal of Clinical & Experimental Dermatology Research

Altunay et al. J Clin Exp Dermatol Res 2011, 2:7
DOI: 10.4172/2155-9554.1000133

Research Article Open Access

Clinical Observations on Acute and Chronic Urticaria: A Comparative Study

Altunay IK[1], Demirci GT[2]* and Atis G[3]

[1]Dermatology Department, Sisli Etfal Teaching and Research Hospital, Istanbul, Turkey
[2]Department of Ophthalmology, Duzce Goverment Hospital, Duzce, Turkey
[3]Department 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 wheals 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 porcellenea*. When the size of the lesions is several centimeters in 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*. When polycyclic or maplike patterns are present, it is termed *urticaria circinate*. If the swelling is in the deep dermis or subcutaneus 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 hemorrhagica* [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, triggerring 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 threatenning. Clinical symptoms of CU are often less but much more trouble some 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 (diamete. >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 antihistaminics, desloratadine 5mg /day and fexaphenadyne 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. $P \leq 0.05$ 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

***Corresponding author:** Gulsen Tukenmez Demirci, Şişli Etfal Eğitim ve Araştırma Hastanesi, Dermatoloji Kliniği, 19 Mayıs cad. Etfal sok, PK:34377 Şişli /İstanbul Turkey, Tel: +902123535000; Fax: +902123535076; E-mail: gulsentukenmez@yahoo.com

Received October 16, 2011; **Accepted** November 20, 2011; **Published** November 25, 2011

Citation: Altunay IK, Demirci GT, Atis G (2011) Clinical Observations on Acute and Chronic Urticaria: A Comparative Study. J Clin Exp Dermatol Res 2:133. doi:10.4172/2155-9554.1000133

in 2 patients (3,8%), plaque with circinate morphology in 1 patients (1,9%), plaque with gigantea–annular morphology in 1 patient (1,9%), papular-annular lesion 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), plaque with gigantea–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 ere 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%) ,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, dysphagy, 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 differerence 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 fexophenadyne 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

	Acute Urticaria	Chronic Urticaria	P
Gender	Female:34 (65,4%) Male:18 (34,6%)	Female:23 (71,9%) Male:9 (28,1%)	0,536
Age (mean)	32,92	41,53	
Marital Status	Married:31 (59,6%) Single:21 (40,4%)	Married:21 (65,6%) Single:11 (34,4%)	0,582

Table 1: Distribution of patients with acute and chronic urticaria, according to age, gender and marital status.

	Acute Urticaria	Chronic Urticaria
Morphology		
Annular	38 (73,1%)	22 (69%)
Annular-Circinate	5 (9,6 %)	
Papular	3 (5,7 %)	3 (9,3 %)
Gigante	2 (3,8 %)	
Circinate	1 (1,9 %)	1 (3,1%)
Gigante-Annular	1 (1,9 %)	1 (3,1%)
Profunda-Annular	1 (1,9%)	1 (3,1 %)
Papular-Annular	1 (1,9 %)	4 (12,4 %)
Systemic symptoms		
Headache	7 (13,4 %)	2 (6,2%)
Abdominal pain-diarrhea	4 (7,6%)	
Funny turn feeling	4 (7,6 %)	5 (15,8%)
Muscle-joint pain	3 (5,7%)	1 (3,1%)
Fatigue	1 (1,9 %)	1 (3,1%)
Headache-shortness of breath	1 (1,9 %)	1 (3,1%)
Dysphagia	1 (1,9 %)	
Insomnia		1 (3,1%)
Dizziness		1 (3,1%)
No systemic symptom	31 (59,6%)	20 (62,5%)

Table 2: The morphology of urticarial lesions and systemic symptoms in the patients with acute urticaria and chronic urticaria.

	1st visit	2nd visit	3rd visit	4th visit
Acute Urticaria				
UAS*:0 and no lesion				
UAS*:0 and a few lesions	10 (19%)	50 (96,2%)	52 (100%)	52 (100%)
UAS*:1	9 (17,3 %)	2 (3,8 %)		
UAS*:2	15 (28,8%)			
UAS*:3	18 (35,4%)			
Chronic Urticaria				
UAS*:0 and no lesion		5 (15,5%)	6 (18,6%)	7 (21,9%)
UAS*:0 and a few lesions	13 (41,1%)	22 (69%)	22 (69%)	21 (65,7%)
UAS*:1	10 (31%)	3 (9,3%)		3 (9,3%)
UAS*:2	4(12,4%)	1(3,1%)	4 (12,4%)	
UAS*:3	5 (15,5%)	1 (3,1%)		1 (3,1%)

UAS:Urticaria Activity Score*

Table 3: Urticaria activity scores in patients with acute urticaria and chronic urticaria.

	Acute Urticaria	Chronic Urticaria	p
With systemic Disease			
Asthma:	10 (19%)	14 (43,4%)	
Diabetes mellitus:	*1(1,9%)*	*1 (3,1%)*	
Gastritis:	*1(1,9%)*	*5 (15,5%)*	
Glaucoma:	*1(1,9%)*	*1(3,1%)*	
Gout:	*1(1,9%)*	*2 (6,2%)*	
Hypertension:	*1(1,9%)*	*1 (3,1%)*	
Hypertension-Depression	*1(1,9%)*	*1 (3,1%)*	
Migraine and diabetes mellitus	*1(1,9%)*	*1 (3,1%)*	0,018
Diabetes mellitus-Depression	*1(1,9%)*	*1(3,1%)*	
Hashimoto thyroiditis	*1(1,9%)*	*1(3,1%)*	
Anemia	*1(1,9%)*		
Basedow-Graves Disease	*1(1,9%)*		
Depression and gastritis			
Hepatitits B infection			
Depression		18(56,6%)	
With no systemic disease	42 (81%)		
With dermatologic disease			
Atopic dermatitis	6 (11,4%)	7 (21,7%)	
Eczema	*1 (1,9 %)*	*1 (3,1%)*	
Pitriasis Versicolor	*1 (1,9 %)*	*2 (6,2%)*	
Acne vulgaris	*1 (1,9 %)*	*2 (6,2%)*	
Kserosis Cutis	*1(1,9 %)*	*1 (3,1%)*	0,210
Lichen simplex chronicus	*1 (1,9%)*	*1 (3,1%)*	
Psorisis vulgaris	*1 (1,9%)*		
Alopeci Areata	1 (1,9%)		
With no dermatologic disease	46 (88,6%)	25 (78,3)	

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

Treatment	Acute Urticaria	Chronic Urticaria
AD¥	42 (80,8%)	23 (71,9 %)
AD¥ and SST§	10 (19,2%)	7(21,9%)
AD¥ and Colchicine		1 (3,1%)
AD¥ and SST§ and antidepressant therapy		1 (3,1 %)

AD¥:Antihistaminis Drugs. SST§:Systemic Steroid Therapy

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

therapy in daily dermatologic practice. [13] Although, there are many epidemiological studies reporting various characteristics of each type, as far as we know, there is no comparative study consisting of all these features attributed to both types. Some studies reported that the rate of progression of AU to CU is in the literature from below %1 to %30. [4] In our study we found %38,09 of the patients turned to chronic urticaria which is slightly higher than the former reports. When considering demographic factors such as age, sex, education level, marital status, occupation etc., the difference was statistically insignificant.

Although typical lesion is strongly itching wheals in both AU and CU, wheals can occur in different types as referred by Braun-Falco. [14] We observed the most common presentation with annular and gigantae plaques of wheals in AU and smaller papular and annular wheals in CU. UAS which shows the severity of the clinical picture to some extent was higher in AU than that in CU as expected. AU usually develops a more severe clinical and life-threatening symptoms when compared with CU. [15,16] Kulthanan et al. studied patients with urticaria retrospectively and they found sixteen percent of the patients had coexisting angioedema, the most common being dyspnea. [13] Ferrer et al. detected that patients with acute urticaria-angioedema often go to emergency departments because of more severe clinical course. [16] An association with angioedema in AU was more than that in CU, although the difference was insignificant in our study. Therefore, the widespread of lesions seemed to occur a more important characteristic in our cohort regarding clinical severity.

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 extracutaneous 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 extracutaneous 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. detect arthralgia and chronic headache as the most common systemic symptoms in patients with chronic urticaria and angioedema similiarly 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 diseases 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

1. Ghosh S (2009) What's new in urticaria? Indian J Dermatol 54:280-282.
2. Zuberbier T, Maurer M (2007) Urticaria: Current opinions about etiology, diagnosis and therapy. Acta Derm Venereol 87:195-205.
3. Khalaf AT, Li W, Jinquan T (2008) Current advances in the management of urticaria. Arch Immunol Ther Exp (Warsz) 56:103-114.

4. Maurer M, Grabbe J (2008) Urticaria: Its History-Based Diagnosis and etiologically oriented treatment. Dtsch Arztebl Int 105:458-66.

5. Sackesen C, Sekerel BE, Orhan F, Kocabaş CN, Tuncer A et al. (2004) The Etiology of different form of urticaria in childhood. Pediatric Dermatol 21:102-108.

6. Grabbe J (2009) Braun-Falco's Dermatology:Urticaria and angioedema. (3rdedn), Springer.

7. Habif TP (2004) Clinical dermatology: a color guide to diagnosis and therapy. (4th edn), Chile, Mosby.

8. Novembre E, Cianferoni A, Mori F, Barni S, Calogera C, et al. (2008) Urticaria and urticaria related skin condition/disease in children. Eur Ann Allergy Clin Immunol 40: 5-13.

9. Poonawalla T, Kelly B (2009) Urticaria:a rewiev. Am J Clin Dermatol 10: 9-21.

10. Wedi B, Raap U, Wieczorek D, Kapp A (2009) Urticaria and infections. Allergy Asthma Clin Immunol 5: 1-12.

11. Bhor U, Pande S (2006) Scoring systems in dermatology. Indian J Dermatol Venereol Leprol 72: 315-321.

12. Maurer M, Ortonne P, Zuberbier T (2009) Chronic urticaria: an internet survey of health behaviors, symptom patterns and treatment needs in European adult patients. Br J Dermatol 160: 633-641.

13. Kulthanan K, Chiawsirikajorn Y, Jiamton S (2008) Acute urticaria: etioligies, clinical course and quality of life. Asian Pac Allergy Immunol 26:1-9.

14. Wedi B, Kapp A (2008) Allergy and asthma practical diagnosis and management :Urticaria and Angioedema. The Mc Graw-Hill Companies Inc.

15. Arshod SH, Holgate ST, Adkinson NF, Babu KS (2005) An Atlas of Investigation and Management Allergy. Oxford, Atlas Medical Publishing Ltd.

16. Ferrer M (2009) Epidemiology, healthcare, resources, use and clinical features of different type of urticaria. J Investing Allergol Clin Immunol 19: 21-26.

17. Silvares MRC, Coelho KIR, Dalben I, Lastoria JC, Abbade LPF (2007) Sociodemographic and clinical characteristics, causal factors and evolution of group of patients with chronic urticaria-angioedema. Sao Paulo Med J 125: 281-285.

18. Liu TH, Lin YR, Yang KC, Chou CC, Chang YJ et al. (2008) First attack of acute urticaria in pediatric emergency department. Pediatr Neonatol 49: 58-64.

19. Deacock SJ (2008) An approach to patient with urticaria. Clin Exp Immunol 153: 151-161.