

Evaluation of Etiology in Patients who Admitted to Dermatology Outpatient Clinic with Acute Urticaria

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Abstract

Background: The purpose of this review is to describe the causes of patients with acute urticaria who admitted dermatology outpatient clinic.

Materials and methods: Adult patients (age > 18 years) who were diagnosed with acute urticaria were included in our study. Our sample consisted of 159 patients with acute urticaria who applied to three different dermatology outpatient clinics between 2021-2022 years. Age, gender, duration of disease, history of angioedema, presence of triggering factor, history of chronic urticaria, and admission to the emergency department were collected retrospectively from records.

Result: A total of 159 patients 102 (%64.1) were female and 57 (%35.8) were male. 82 (51.6%) patients had a triggering factor and no factor was detected in the remaining 77 (48.4%) patients. The total number of patients who admitted to the emergency department was 42 (26.4%). The most common triggering factor was drugs (n=31, 37.8%) followed by infections. The most commonly used drug type was Non-steroidal anti-inflammatory drugs and the most common infection was upper tract infections.

Conclusion: Our study revealed that drugs and infections are common causative factors for acute urticaria consistent with the literature. When we examined patients with acute urticaria, especially in the emergency department or dermatology outpatient clinic, we need to keep in mind that detecting possible triggering factors can prevent the disease from recurring or the development of life-threatening symptoms.

Keywords: Emergency Dermatology, Acute urticaria, Triggering.

Introduction

Urticaria is erythematous, edematous, pruritic papules and/or plaques that involve the skin and mucous membranes. These urticarial papules/plaques usually appear suddenly and disappear spontaneously within less than 24 hours. Acute urticaria (AU) is defined by a repeated appearance of wheals with or without angioedema over a period of up to 6 weeks. Acute urticaria is common and the lifetime prevalence is approximately 20%. It can be seen in all age groups. It is one of the most common dermatologic conditions presented to many emergency departments. Because most of the patients who have the first attack of acute urticaria usually visit the emergency department. Acute urticaria is caused by various etiologies such as infections (viruses, bacteria, fungi, and parasites), allergic reactions to foods and drugs, insect bites, or physical stimuli. Sometimes no known cause may be also seen. In the literature, the frequency and variety of infections can be different because of the patient popula-

tion and geographic region. It is often difficult to determine the exact etiological factor. Identifying the underlying etiology is important for the effectiveness of treatment. Elimination of detectable etiologic causes and avoiding triggers constitute the first step of treatment. (1-6). The purpose of this review is to describe the causes of patients with acute urticaria who are admitted dermatology outpatient clinic.

Materials and Method

Adult patients (age > 18 years) who were diagnosed with acute urticaria were included in our study. The exclusion criteria were as follows: The patients who were under 18 years of age, with a history of urticaria for more than 6 weeks and missing data in files. Our study was retrospective design. The total number of patients who were diagnosed with acute urticaria during this period was set at 520. But our sample consisted of 159 patients with AU who applied to three different dermatology outpatient clinics between 2021-2022

years in our country. Age, gender, duration of disease, history of angioedema, presence of triggering factor, history of chronic urticaria, and admission to the emergency department were collected retrospectively from records.

Statistical Analyses: Descriptive statistical analysis was performed with Microsoft Excel, and the data obtained were calculated as mean and percentage.

Results

In total, we analyzed 520 patients diagnosed with AU in all three dermatology outpatient clinics. This study included only 159 of these patients because of inclusion criteria. Of a total of 159 patients, 102 (%64.1) were female and 57 (%35.8) were male included in this study. The mean age of the patients was 37.44 ± 13.89 years and the mean duration of urticaria complaints was $13,23 \pm 11.70$ (range, 1-40 days). Angioedema was present in 10.0% (n = 16) of the patients with urticaria. The total number of patients who were admitted to the emergency department was 42 (26.4%). The presence of a history of chronic urticaria in the past was detected in only 11(6.9%) patients. In evaluated according to the presence of triggering factor, 82 (51.6%) patients had

Drugs (31,%37.8)	NSAID (12, %38.7) Antibiotics (10, %32.2) Beta lactam (9, %90) Doksisiklin (1, %10) Paracetamol (3, %9.6) Others (6,%19.3) Antifungal (1,%5.1) Iron(1,%5.1) Contrast agent(1,%5.1) Collajen(1,%5.1) Hormone(1,%5.1) Herbal(1,%5.1)
Infections (27,%32.9)	Upper respiratory tract infection (10,%37.0) Dental infections (5,%18.5) Covid 19 infection(5,%18.5) Urinary infection (3,%11.1) Gastroenteritis (3,%11.1) Cutaneous infections (1,%3.7)
Infections and drugs	9 (%10,9)
Chemical	5(%6.0)
Stress	3(%3.6)
Physical	3(%3.6)
Insect bite	2(%' .43)

Table 1: Triggering factors of acute urticaria

Drugs 31(37.8)	NSAID 12 (38.7)	
	Antibiotics 10 (32.2)	Beta lactam 9 (90)
		Doksisiklin 1 (10)
	Paracetamol 3 (9.6)	
	Others	Antifungal 1 (5.1)
		Iron 1 (5.1)
		Contrast agent 1 (5.1)
		Collegen 1 (5.1)
Hormone 1 (5.1)		
	Herbal 1 (5.1)	
Infections	Upper respiratory tract infection 10 (37)	
	Dental infection 5 (18.5)	
	COVID-19 5 (18.5)	
	Urinary infection 3 (11.1)	
	Gastroenteritis 3 (11.1)	
	Cutaneous infection 1 (3.7)	
Infection and drugs 9 (10.9)		
Chemical 5 (6)		
Stress 3 (3.6)		
Physical 3 (3.6)		
Insect bite 2 (1.43)		

n (%): n= Number, %= percent

triggering factor and no factor was detected in the remaining 77 (48.4%) patients. Of 82 patients, 73(45.9%) patients had at least one triggering factor and 9 (5.6%) patients had more than one. The most common triggering factor was drugs (n=31, 37.8%). Infections were the second most triggering factor, followed by both drug and infection coexistence. All identified triggering factors are listed in Table 1. The most commonly used drug type was Non-steroidal anti-inflammatory drugs (NSAIDs) (%38.7, n = 12), followed by antibiotics (%32.2, n = 10). When infections are classified in order of frequency, the most common infections were upper tract infections (%37.0,n=10), followed by dental infections and covid 19 infections.

Discussion

Diagnosis of acute urticaria is made by clinical appearance and anamnesis. Detailed history taking is essential in all urticaria patients. Sometimes it can be confused with other dermatological diseases such as viral eruptions, drug eruptions, connective tissue diseases, and urticarial vasculitis. Therefore, detailed anamnesis is very important both in the emergency department and in the dermatology outpatient clinics. The time between the possible etiologic factor and the onset of the disease and the presence of accompanying systemic symptoms are helpful factors in the differential diagnosis. Acute urticaria usually does not require a diagnostic workup apart from anamnesis. (4-7)

Previous studies reported a high prevalence of females and young to middle-aged patients with acute urticaria similar to our study. Drugs and infections generally cause acute urticaria. Acute urticaria may be seen from 1-2 hours or 15 days after oral intake of the drug. If the drugs are given intravenously, urticaria can occur immediately (8). In our study, the majority of patients had a history of drug use for triggering AU. Melikoğlu et al. evaluated 284 patients with AU between 2017 and 2021 years. They found that the most triggering factor was drug use in our study. And they said that NSAIDs were the most causative drug among other types of drugs like us(4). Losappio et al. investigated 351 adult patients with acute urticaria in the emergency department. In their series, the etiology of acute urticaria was not determined in most of the patients but among triggering factors the drugs were detected in most of the patients(7). In one study by Comert et al., they evaluated 281 patients and found that drugs especially NSAIDs were the most common causative factor(5). The patients use painkillers for many different reasons in daily life. Thus, it may explain why NSAIDs are more than antibiotics in results.

Antibiotics of the beta-lactam group are the most commonly used antibiotics in our country and worldwide. In our study, Thus we do not surprise by this result. Infections such as respiratory infections, dental infections, urinary tract infections, and gastrointestinal tract infections cause acute

urticaria. In the literature, some studies have found infections as the most common causative factor for acute urticaria. But in our study, we detected infections were the second common causative factor like Melikoğlu et al. and Comert et al. We evaluated all of the patients according to anamnesis without laboratory parameters. This evaluation may have contributed to these results for infections the second most common factor. The frequency and variety of infections can vary based on patient population and geographic region. This should be taken into account when evaluating patients (4,5).

Some patients had drug use and the same time signs of infection. In these patients group, they had upper tract infections and used antibiotics and NSAIDs drugs like Melikoğlu et al.(5) Therefore, a possible factor could not be detected in these patients. In this patient group, determining the time between drug intake and infection may be helpful in diagnosis.

Food-related acute urticarial eruptions are more common in children. We detect foods in the etiology at very lower rates (only two patients) because our study included only the adult population. Santa et al. Said that food was detected as a triggering factor in only 6 children with acute urticaria. Melikoğlun et al. found 9 patients had food allergy (4-6).

Stress is a potential triggering factor for AU in some studies but the relationship between them is not clear yet. Comert et al. reported that stress was the third common triggering factor for their patients series (5). We detected only 3 patients had a history of stress.

Physical factors can cause acute urticaria. It may develop due to external factors such as pressure, hot and cold. Acute urticaria may be due to insect bites, especially in the pediatric population (8). In our study population, only two patients had a history of insect bites.

In our study, the total number of patients who were admitted to the emergency department was 42. Losappio et al. studied patients who were admitted emergency room for AU. Their some results were like our results. Thus, patient's detailed history is very important for AU either the emergency department or dermatology outpatient clinic. When the cause of the disease is determined in the emergency department and the appropriate approach is taken, the occurrence of other attacks of the patients may be prevented (7).

Study Limitation: *The main limitation of the present study was the retrospective study design. We evaluated all of the patients according to anamnesis without laboratory parameters thus more objective methods are necessary to more clearly determine the etiology of AU.*

Conclusion

In conclusion, our study revealed that drugs and infections are common causative factors for AU consistent with the

literature. Acute urticaria is generally a spontaneously resolving disease but sometimes angioedema can occur. Thus, when we examined patients with acute urticaria, especially in the emergency department or dermatology outpatient clinic, we need to keep in mind that detecting possible triggering factors can prevent the disease from recurring or the development of life-threatening symptoms.

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