

Assessment of patients presented to the emergency department with dermatological complaints: Retrospective cohort study

Dermatolojik yakınma ile acil servise başvuran hastaların değerlendirilmesi: Retrospektif kohort çalışma

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Abstract

Aim: Although dermatology is an area of expertise based largely on outpatient treatment, about 5-10% of emergency department patients are dermatological diseases. In this study, it was aimed to draw attention to management of dermatologic diseases which are frequently encountered in emergency services.

Methods: Over 18 years old 96 patients who presented with a dermatologic problem to the emergency department of Kahramanmaraş Sutcu Imam University Hospital between January and June 2018 were evaluated. **Results:** The mean age of the patients was 43.9 ± 17.1 years. When the gender distribution was examined, 39.6% (n=38) of the cases were male and 60.4% (n=58) were female. Pruritus and rash were the most common dermatological complaints and the most common diagnoses were urticaria (38.5%), urticaria-angioedema (13.5%), cellulitis (8.3%) and anaphylaxis (8.3%) in this study. The rate of cases without known dermatological disease was 77.1%. In 52 (54.2%) cases, there was a new drug use which may be associated with the current dermatosis, and antibiotics (22.9%) were the most frequently detected from these drugs.

Conclusion: It was seen that most of the patients who admitted with a dermatological problem had no known dermatological disease, and some adult patients with chronic dermatosis might apply to emergency services. It has been determined that not all cases are real dermatologic emergencies and most of them are relieved and discharged by intervention made at the emergency department without need of examination. The presence of a new drug use in about half of the cases revealed that drugs are an important etiologic factor in emergency dermatological diseases.

Keywords: Emergency department, Dermatological emergency, Urticaria, Drug-related rash

Öz

Amaç: Dermatoloji, büyük ölçüde ayakta tedaviye dayalı bir uzmanlık olmasına rağmen, acil servis hastalarının %5-10 kadarını dermatolojik hastalıklar oluşturmaktadır. Bu çalışmada acil serviste sık karşılaşılan dermatolojik hastalıkların yönetimine dikkat çekilmesi amaçlanmıştır.

Yöntemler: Dermatolojik bir yakınma ile Ocak ve Haziran 2018 tarihleri arasında Kahramanmaraş Sütçü İmam Üniversitesi Hastanesi acil servisine başvuran 18 yaşından büyük 96 hasta değerlendirildi.

Bulgular: Hastaların yaş ortalaması 43,9±17,1 yıl idi. %39,6'sı (n=38) erkek, %60,4'ü (n=58) kadın cinsiyette idi. En sık başvuru şikayeti kaşıntı ve kızarıklık, en sık tespit edilen tanılar ise ürtiker (%38,5), ürtiker-anjiödem (%13,5), selülit (%8,3) ve anafilaksi (%8,3) idi. Olguların %77,1'inin (n=74) bilinen dermatolojik hastalığı yoktu. Olguların %54,2'sinde (n=52) mevcut dermatoz ile ilişkisi olabilecek yeni bir ilaç kullanımı vardı ve bu ilaçlardan en sık tespit edileni antibiyotikler (%22,9) idi.

Sonuç: Dermatolojik bir problemle acile başvuran hastaların çoğunun bilinen bir dermatolojik hastalığı yokken, bazı kronik dermatozlu erişkin hastaların acil servise başvurabildiği gözlemlendi. Olguların tamamının gerçek dermatolojik acil olmadığı ve çoğunun tetkik ihtiyacı duyulmaksızın acil serviste yapılan müdahale ile rahatlatılıp taburcu edildiği tespit edildi. Olguların yaklaşık yarısında yeni bir ilaç kullanma öyküsünün varlığı ilaçların acil dermatolojik hastalıklarda önemli bir etiyolojik faktör olduğunu ortaya koymuştur.

Anahtar kelimeler: Acil servis, Dermatolojik acil, Ürtiker, İlaç ilişkili döküntü

Introduction

Dermatology is an area of expertise based largely on outpatient treatment. Nevertheless, apply to the emergency department with a dermatologic problem is not uncommon [1]. Skin diseases that require urgent intervention may be caused directly by skin or by a systemic disease or external factors [2]. Due to the broad spectrum of skin diseases and various clinical findings, it presents a diagnostic challenge for emergency physicians [3]. In the literature, diseases such as toxic epidermal necrolysis, staphylococcal scalded skin syndrome, toxic shock syndrome, pustular psoriasis, erythroderma and angioedema have been defined as dermatological emergencies [4]. However, in the studies evaluating patients presenting to the emergency room with dermatological complaints, it was observed that not all patients had actual dermatological emergencies [2,5]. In this study, we aimed to draw attention to the management of frequently encountered dermatological diseases in emergency department by investigating the demographic and clinical data of emergency patients.

Materials and methods

This is a retrospective cohort study based on observation. The demographic characteristics, the complaint of the applicant, the duration of the complaint, the presence of a known systemic or dermatological disease, the history of a new drug use in the last 20 days, the type of medication used, the need for consultation, the type of emergency treatment, and the patient's latest condition were recorded. Children, trauma patients, and adult patients with dermatological problems who presented to the emergency room for another reason as a primary cause were excluded from the study.

The study was approved by the local ethics committee (decision date: 17.01.18, decision no: 2, session: 2018/02). Over 18 years old 96 patients who presented with a dermatologic problem to the emergency department of Kahramanmaraş Sutcu Imam University Hospital between January and June 2018 were evaluated. The research was performed in agreement with the Helsinki Declaration. The patients were informed about the study and a voluntary consent form was filled out.

Statistical analysis

The SPSS v.17.0 package program was used for the statistical evaluation of the data obtained in the study. (SPSS Inc, Chicago, Illinois, USA). Continuous data were summarized as mean, standard deviation, while categorical data were summarized as number and percentage.

Results

The mean age of the patients was 43.9 ± 17.1 (min-max:18-80) years. 39.6% (n=38) were male and 60.4% (n=58) were female. Pruritus and rash were the most common dermatological complaints of 63 (65.6%) patients. When 4 patients with diabetic foot were excluded, the mean interval between the onset of complaint and emergency service admission was 39.8 ± 59.4 hours, ranging from 15 minutes to 1 week. Diseases with the shortest duration were anaphylaxis (2.1 ± 3.2 hours), urticaria-angioedema (5.2 ± 6.9 hours) and insect sting (11.4 ± 20.5 hours), respectively. When patients' comorbidities

were questioned, 10 (10.4%) had hypertension, 8 (8.3%) had diabetes with hypertension, 7 (7.3%) had diabetes, and 5 (5.2%) had thyroid gland disease. In 5 (5.2%) cases pregnancy was present. Concomitant dermatological diseases were chronic urticaria in 15 (15.6%), eczema in 5 (5.2%) and psoriasis in 2 (2.1%) cases, while 77.1% of the cases (n=74) had no known dermatologic disease. In 54.2% of cases (n=52) there was a new drug use that could be related to the existing dermatosis. The most common drugs in the etiology were antibiotic (22.9%), nonsteroidal anti-inflammatory drug (11.5%), myorelaxant (7.3%), antiaggregant (2.1%) and iron (2.1%). Dermatology consultation was needed in 4.2% (n=4), while 21.9% (n=21) of the cases required examination for diagnosis or treatment management. The distribution according to the patients' diagnoses is given in Table 1. The most common diagnoses were urticaria (38.5%), urticaria-angioedema (13.5%), cellulitis (8.3%) and anaphylaxis (8.3%) in this study. The etiology of the diseases is considered to be drug use in 46.9% of the cases (n=45), stress in 12.5% of the cases (n=12), infection in 10.4% of the cases (n=10) and autoimmunity in 10.4% of the cases (n=10). 8.3% of the dermatoses were bacterial, 3.1% were associated with viral infection. Assessments regarding the final status of the patients showed that 80.2% of the patients' treatment was completed in emergency service and the patients were discharged, 6.2% of the patients were referred to dermatology clinic, 4.2% to intensive care and 9.4% to other clinics. Topical treatment was applied to 11.5% (n=11) of the cases and 79.2% (n=76) of the cases received systemic treatment while in 9.4% (n=9) of the cases emergency intervention was not made.

Table 1: Distribution of the diagnoses of the patients referred to the emergency department by dermatological complaint

Diagnosis	Frequency n (%)
Urticaria	37 (38.5)
Urticaria-angioedema	13 (13.5)
Cellulitis	8 (8.3)
Anaphylaxis	8 (8.3)
Pruritus	6 (6.2)
Maculopapular drug eruption	5 (5.2)
Insect bite	5 (5.2)
Ecchymosis	5 (5.2)
Diabetic foot	4 (4.2)
Eczema	3 (3.1)
Zoster	2 (2.1)

Discussion

Some dermatologic diseases may require emergency units serving throughout the day. It is estimated that dermatological complaints constitute 5-10% of all visits to emergency services [6]. Frequently identified dermatoses in studies have changed in relation to population differences, climatic and seasonal differences. In a retrospective study in Northern Cyprus, approximately 2% of emergency patients were found to have dermatologic problems and the most common disease was observed as urticaria. In addition, insect bites have been reported to be frequently detected in this study, as opposed to the literature, and this has been linked to the fact that the region has a subtropical climate [7]. In this study, the most common causes of admission to the emergency department were itching and redness, and the most common diseases were urticaria, urticaria-angioedema, anaphylaxis and cellulitis. In a study also involving pediatric cases in Singapore, eczema, urticaria, nail trauma and infections and drug eruption were

detected less frequently and at similar rates while the most frequent complications were varicella and herpes zoster. Venereal diseases were observed in 1% of cases and were reported to be rare [8]. In a study made in the summer months in Tahrán, infection-associated dermatoses have been reported in 41.9% of cases [5]. In this study, the rate of infection-related dermatoses was 11.4%. We think that this low ratio is related to the fact that the study was done in the winter and spring seasons.

In a study conducted in the United States, dermatological problems and non-dermatological reasons of emergency patients were demographically compared. It has been reported that patients who present to emergency services with dermatological problems tend to be between the ages of 18-54, male and person with low-income [9]. In another study conducted in our country, the mean age of the patients with dermatological complaints was 41.7 and the female sex ratio was 56.2% [2]. Similar to the data of our country, the mean age of the patients in this study was 43.9 and the majority was female.

An immediate treatment may be required with toxic epidermal necrolysis, autoimmune bullous diseases such as pemphigus vulgaris, erythroderma, pyoderma such as cellulitis and erysipelas and with dermatological diseases such as angioedema and generalized urticaria. Nevertheless, it has been reported that a large proportion of presentations to emergency services cannot be considered a real dermatologic emergency [5]. In this study, it was observed that presentations to the emergency department were done with diseases, which are not dermatologic emergency cases such as nonspecific pruritus, ecchymosis or diabetic foot. In this study, the proportion of other diagnoses was 31.3% when urticaria, angioedema, anaphylaxis and cellulitis were excluded. The percentage of true dermatologic non-emergency cases in emergency departments was 49% in a study conducted in Spain and 82% in a study conducted in the United States [10,11]. In this study, the reason that the real dermatologic non-emergency conditions are detected at lower rates may be related to the easier access to the outpatient clinic service in our country.

In a study evaluating emergency department presentations due to adverse drug reactions, anticoagulants, antibiotics and non-steroidal anti-inflammatory drugs were reported to be determined most frequently and the most common adverse reactions to these drugs were gastrointestinal bleeding and skin rash [12]. In a study investigating the causes of anaphylaxis in all age groups, in 20% of the cases the drug was held responsible for etiology. Non-steroidal anti-inflammatory drugs were the most frequently used drugs [13]. In this study, the etiology of dermatoses with skin rash was investigated and it was seen in the history of patients that the use of antibiotics was significantly higher. This may be related to the fact that patients and physicians in our country have a high tendency to use antibiotics.

While inspection is often sufficient for the diagnosis of dermatological diseases, it may be necessary to perform an examination because it is important for diagnostic purposes or for the management of the treatment. In a study conducted in Spain, it was reported that 4 of 5 patients with urgent dermatologic complaints did not require examination [10]. The result obtained in this study is similar to literature.

In a study evaluating patients who presented to the emergency department with dermatologic problems, two most common disease groups were infectious skin diseases and eczema diseases. In the study, 64.2% of the cases were treated locally and 22.6% were treated systemically [14]. In this study, systemic treatment was applied to the majority of cases in accordance with the treatment regimens required for frequently diagnosed diseases.

Examining the rate of admission to the hospital in literature, it was seen that the rate of hospitalization due to dermatological problems changed according to the characteristics of the applied hospital [2]. In a study conducted by Wallet et al. [1] in Australia, the management of patients who applied to emergency services for skin disease was researched and it was reported that 18% of patients were admitted to the hospital. In this study, similar to literature, the admission rate was 19.8%.

Limitations of the study were that the pediatric patients were not included in the study and the number of cases in the study group was relatively low compared to the retrospective studies in literature.

Conclusion

As a result of this study, it was seen that in most of the patients, there was no known dermatological disease, and that some adult patients with chronic dermatosis might apply for emergency services. It has been determined that not all cases are real dermatologic emergencies and most of them are relieved and discharged by intervention made at the emergency department without need of examination. It was concluded that the characteristics of the present hospital, characteristics of the patient population and the season in which the patients are have an impact on dermatologic diseases in the emergency departments. This study provided information about the etiology of diseases. It has revealed the importance of keeping it in mind for rash illnesses that about half of the cases had a history of using a new drug and that drugs are an important etiological factor in urticaria, urticaria-angioedema, anaphylaxis and maculopapular eruptions.

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