



Original Research

Evaluation of Dermatology Consultations in a Tertiary Care Centre Emergency Service

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Abstract

Objectives: The primary objective of our study was to investigate the profile of patients visiting our hospital's emergency department and underwent dermatology consultation.

Methods: In this study, we reviewed electronic medical records of 444 consultations from the emergency department over a period from 01.05.2017 to 01.05.2018. We recorded patients' age, gender, complaint, diagnosis and treatment from the database.

Results: Overall, 444 patients were studied. The most common conditions seen were infection (86.9%) (mainly viral), followed by inflammatory dermatoses (5.4%) and urticaria and angioedema (5.1%). The highest rate of cases peaked in April (14%).

Conclusion: Commonly encountered dermatological disorders in the emergency department identified in this study, mostly infectious diseases. Knowing the epidemiology of dermatological emergencies and the alarming skin signs and symptoms can be useful for better health care.

Keywords: Consultation; dermatology; emergency.

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Although dermatological diseases are generally not acute and life-threatening, dermatological emergencies may course with high mortality and morbidity and should be diagnosed at an early stage and treated correctly. However, in previous publications, it has been reported that many of the dermatology patients who applied to the emergency department were not "true dermatological emergencies". Recognizing "true dermatological emergencies" in the emergency service will contribute to correct triage, increased work efficiency, patient satisfaction, and the correct use of financial resources. Our hospital is the tertiary education and research hospital in the region where the highest number of patients is examined in the emergency department and this study aims to evaluate the dermatology

consultations performed by the emergency department of our hospital and to examine the demographic features, diagnoses and treatment modalities.

Methods

A total of 444 patients who were admitted to the adult emergency department between 01.05.2017-01.05.2018 and consulted to the dermatology department were analyzed retrospectively. Demographic data of the patients, diagnosis and treatment of the consultant physician, distribution of the diagnoses by months were recorded. "True dermatological emergencies" were considered as severe drug eruptions and skin infections that disrupt the general condition of the patient.

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"SPSS for Windows" version 15.0 program was used for statistical analysis. Descriptive statistics were expressed as the mean, standard deviation for numerical variables, and as numbers and percentages for categorical variables.

Results

An average of 300.000 patients was applied to our hospital's emergency department in the past year, and 444 (0.15%) of these patients consulted to the dermatology department. The mean age of the patients, including 251 (56%) male and 193 (54%) female patients, was 44.6 ± 14.4 years. The patients were younger than 18 (13%: n=58), between 18-65 (63%: n=284), and over 65 (23%: n=102) years of age. Skin infections were most common reason of consultations, consulted in 86.9% (n=386) of all patients. (Table 1) Among those, viral infections were the most frequent indications of consultations, followed by inflammatory dermatoses and urticaria/angioedema (Fig. 1). We found that the patients were treated using anti-viral agents (30.4%) systemic antihistamines (28.4%), systemic anti-mycotic

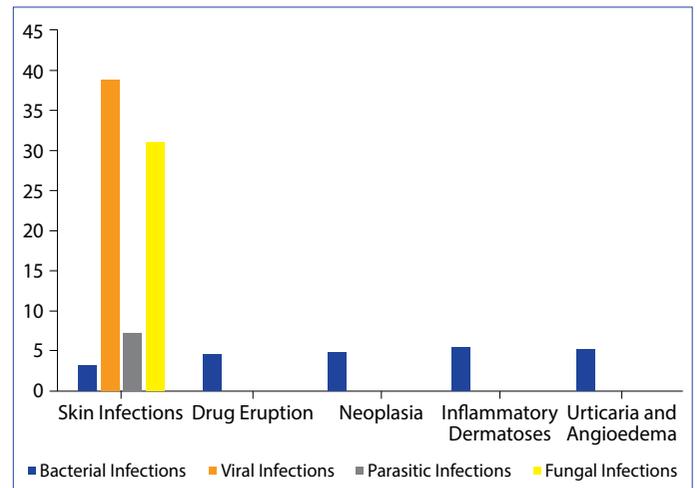


Figure 1. Percent distribution of the number of patients according to disease groups.

agents (10%), systemic corticosteroids (5%), topical corticosteroids (25%), and systemic antibiotics (4%).

Most of the patients (n=63) consulted in April. The highest

Table 1. Distribution of the patients consulted to the dermatology department from the emergency service into groups and subgroups according to their diagnoses

Group	Subgroup	No	Diagnosis	No	
Cutaneous and subcutaneous infections	Bacterial Infections	14	Erysipelas		
		5	Cellulitis	9	
	Viral Infections	172	Herpes Zoster	102	
			Disseminated herpes	1	
			Molluscum contagiosum	6	
			HPV	61	
			Varicella	2	
			Enterovirus	1	
			Undefined	14	
		Parasitic Infections	32	Scabies	30
				Pediculosis	2
		Mycotic Infections	138	Candida Stomatitis	6
			Skin-nail Candidiasis	18	
			Pityriasis Versicolor	13	
	Dermatophytosis		12		
	Tinea (ungium, corporis, cruris, pedis, manus)		89		
Drug Eruption		20			
Neoplasm		21	Malignant Melanoma 12 Kaposi sarcoma 2 Hemangioma 5 Lymphangioma 2		
Inflammatory Dermatoses		24	Contact Dermatitis 21 Seborrheic dermatitis 2 Psoriasis 1		
Urticaria and Angioedema		23			
Total number of patients				444	

percentage of distribution of cutaneous infectious diseases was in January. Contact dermatitis was the most common cause of consultations in patients younger than 18 years old (n=8). Herpes zoster were the most frequent reason for consultations in patients above 65 years of age (n=25). Among the consulted patients, 14 patients (3%) were hospitalized in the dermatology service. The most common indications for hospitalizations were cellulitis, erysipelas and urticaria in order of decreasing frequency, respectively. One hundred and ten (24.7%) patients were accepted as "true dermatological emergency".

Discussion

The mean age of the patients was lower than that reported by Drago et al.^[1] (51±17) but higher than the patients stated by Jack (43±14)^[2] and Mirkamali et al.^[3] (40±21). We believe that this difference may have occurred because Drago et al. did not include patients under the age of 18 in their prospective study.

Detection of the most common cause of consultation as skin infection was consistent with the literature.^[1, 2, 4, 5] Unlike the literature, Grillo et al.^[6] found the most common reason for admission as inflammatory skin diseases and argued that this was due to the consultations requested from the dermatology department for the patients who were not actually urgent, and could not apply to the outpatient clinic during the day. Falanga et al.^[7] found the most common cause of admissions as drug reactions, but since they included other non-emergency dermatological consultations in their studies, one-to-one comparison cannot be made with our study. In our study, viral agents were the most common etiological causes of infections. Drago et al.^[1] detected most frequently bacterial agents (30% of all diagnoses). They thought that the reason for this situation might be because their study was carried out in a university hospital and that more serious infections, such as bacterial cellulitis and bullous erysipelas, were applied to the emergency services.

In the study of Moon et al.,^[8] with a group of 347 pediatric patients consulted with the dermatology department, skin infections were reported as the most frequent causes of consultations. The most common cause of dermatological consultations among pediatric patients in our study was contact dermatitis, which is possibly because in our hospital, the pediatric emergency department provides healthcare services separately, and therefore, most of the pediatric patients have been diagnosed and treated there.

Dertlioğlu et al.^[9] examined dermatology consultations requested by the emergency department at the Firat University Faculty of Medicine and found that 68.31% of the pa-

tients were treated with systemic corticosteroids, 60.64% with systemic antihistamines and 23.51% of them with topical corticosteroids. In their study, they found that the most frequent indication for consultations was urticaria. Thus, the most common treatment was reported as corticosteroids. In our study, unlike them, 86% of our patients consulted for infection, and therefore most frequently, antiviral therapy was prescribed. One reason for this may be better recognition and treatment of urticaria/angioedema by emergency room physicians of our hospital.

Another reason may be better recognition and treatment of infectious skin diseases in emergency services of Firat University Faculty of Medicine or consultations requested by them from other disciplines as departments of internal medicine and infectious diseases.

In their study, Isnard et al.^[10] investigated dermatological emergencies in Paris in 2017 and reported that 1.2% of patients were hospitalized due to primary dermatological diseases. The higher rate of hospitalization in our study may be because the triage in the emergency room was made more efficiently and the patients requiring hospitalization consulted more frequently.

In our study, unlike the literature, it was noteworthy that zona zoster patients consulted very frequently (27%). This condition may be related to that physicians working in the emergency department do not recognize signs and symptoms of zona zoster, so they fail to manage the treatment of the disease in addition to a higher incidence of zona zoster in Turkey (5.6/1000).^[11] The second most common infectious cause was HPV (Human Papilloma Virus) infections. HPV infections induce the development of formations on the skin, which we call warts (verrucae). As long as there is no secondary infection in warts, they do not constitute an emergency and can remain stable for years. A higher number of consultations (42% of all infections) requested by the emergency department may be due to the failure of emergency physicians to recognize verrucae.

The limitations of our study are that it has a retrospective design and evaluations were made based on the diagnoses found in the electronic medical database records.

In 2003, Murr et al.^[12] defined "true dermatological emergency" as "acute dermatoses or dermatosis worsening within the last five days". Among the dermatology consultations requested by the emergency departments, 82%, and 49% of the patients had not emergency dermatological diseases as reported by Jack et al.^[2] and Grillo et al.,^[6] respectively. In our study, it was concluded that 76% of the patients were not "true dermatological emergencies".

To our knowledge, our study is the first study to examine the dermatology consultations in the emergency service

of a training and research hospital in Turkey. As a result, with this study, we evaluated the common dermatological emergencies in the region, seasonal changes and patient management. It is very important to recognize emergency dermatological diseases by emergency physicians, so as to request consultations when necessary, and to reduce the mortality and morbidity rates among these patients. Identifying frequently seen groups of dermatological disease and increasing the training and experience of emergency physicians on diagnosis and treatment methods will help increase the quality of health care. This phenomenon may be realized by increasing the duration of dermatology training in the medical faculty, giving presentations to the emergency staff about dermatological emergencies, which may be achieved by providing training or allowing physicians working in the emergency service to receive rotational training in dermatology.

Disclosures

Ethics Committee Approval: The study was approved by the Sisli Etfal Ethics Committee (numbered:2018/015).

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship Contributions: Concept – E.Ö.; Design – E.Ö.; Supervision – İ.K.A.; Materials – Y.E.; Data collection &/or processing – G.Ş.; Analysis and/or interpretation – E.Ö.; Literature search – E.Ö.; Writing – E.Ö., Y.E.; Critical review – İ.K.A.

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