Evaluation of Dermatology Consultations in a Tertiary Care Centre Emergency Service

Ezgi Ozkur, Ilknur Altunay, Gul Sekerlisoy, Yasemin Erdem
Department of Dermatology, Sisli Etfal Training and Research Hospital, Istanbul, Turkey

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.

Please cite this article as “Ozkur E, Altunay I, Sekerlisoy G, Erdem Y. Evaluation of Dermatology Consultations in a Tertiary Care Centre Emergency Service. Med Bull Sisli Etfal Hosp 2020;54(2):197–200”.

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

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

Dertlioglu 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 patients 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 (verrucas). 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 verrucas.

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 rotation 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.

**References**

1. Drago F, Gasparini G, Signori A, Campisi C, Cozzani E, Parodi A. Dermatological consultations in an observation unit of an emergency department in Italy. J Eur Acad Dermatol Venereol 2015;29:973–80. [CrossRef]
2. Jack AR, Spence AA, Nichols BJ, Chong S, Williams DT, Swadron SP, et al. Cutaneous conditions leading to dermatology consultations in the emergency department. West J Emerg Med 2011;12:551–5.
3. Mirkamali A, Ingen-Housz-Oro S, Valely-Allanore L, Bouvresse S, Duong TA, Chosidow O, et al. Dermatological emergencies: a comparative study of activity in 2000 and 2010. J Eur Acad Dermatol Venereol 2013;27:916–8. [CrossRef]
4. Gupta S, Sandhu K, Kumar B. Evaluation of emergency dermatological consultations in a tertiary care centre in North India. J Eur Acad Dermatol Venereol 2003;17:303–5. [CrossRef]
5. Antic M, Conen D, Itin PH. Teaching effects of dermatological consultations on nondon dermatologists in the field of internal medicine. A study of 1290 inpatients. Dermatology 2004;208:32–7. [CrossRef]
6. Grillo E, Vañó-Galván S, Jiménez-Gómez N, Ballester A, Muñoz-Zato E, Jaén P. Dermatologic emergencies: descriptive analysis of 861 patients in a tertiary care teaching hospital. Actas Dermosifiliogr 2013;104:316–24. [CrossRef]
7. Falanga V, Schachner LA, Rae V, Ceballos PI, Gonzalez A, Liang G, et al. Dermatologic consultations in the hospital setting. Arch Dermatol 1994;130:1022–5. [CrossRef]
8. Moon AT, Castelo-Soccio L, Yan AC. Emergency department utilization of pediatric dermatology (PD) consultations. J Am Acad Dermatol 2016;74:1173–7. [CrossRef]
9. Bakar Dertlioğlu S, Çiçek D, Bozdemir MN, Kandi B. An evaluation of dermatology patients applying to Firat University Medical Faculty Emergency Service. J Kartal TR 2010;XXI:84–8.
10. Isnard C, Ingen-Housz-Oro S, Fardet L, Matteodo E, Duval S, Hemery F, et al. Dermatological emergencies: evolution from 2008 to 2014 and perspectives. J Eur Acad Dermatol Venereol 2017;31:274–9. [CrossRef]
11. Kucukca˘k O, Aliaga˘o˘glu C, Turan H, Yanik ME, Gurlievik Z, Acer E, et al. Retrospective evaluation of patients with herpes zoster followed up in our department between 1999-2010. Turkderm 2012;46:186–90. [CrossRef]
12. Murr D, Bocquet H, Bachot N, Bagot M, Revuz J, Roujeau JC. Medical activity in an emergency outpatient department dermatology. Ann Dermatol Venereol 2003;130:167–70.