

Evaluation of dermatology consultations

Dermatoloji konsültasyonlarının değerlendirilmesi

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Abstract

Purpose: More than 10% of patients from all medical branches other than dermatology may be accompanied by skin symptoms associated with hospitalization reasons or due to other systemic diseases. We aimed to evaluate demographic and clinical profile of these dermatological inpatient and outpatient consultations, diagnostic compliance of patients' clinic and dermatology clinic and to investigate approaches of specialists other than dermatology department to skin diseases.

Materials and methods: 473 patients were included to our study. We noted ages and gender of the patients, consultation department, complaint, whether any additional test was required, pathology result, pathologic diagnosis, whether additional consultation was wanted, department about additional consultation, diagnosis, diagnostic compliance between clinics, treatment.

Results: 270 patients (57.1%) were male and 203 patients (42.9%) were female. Mean age of 473 patients was 45.15±1.21 (min. 0 and max 96). We determined that consultations came mostly from internal medicine, pediatrics, infectious diseases, neurology and gynecology.

Conclusion: Inpatient and outpatient consultations sent from other departments to dermatology department are guiding for patient care. Sufficient effort should be given during resident training to gain experience in dermatological cases. Staffing enough number of dermatologists in all hospitals will provide maximum efficacy in dermatology consultations.

Key words: Dermatology, consultation, internal medicine, pediatrics, infectious diseases.

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Öz

Amaç: Dermatoloji dışındaki diğer branş hastalarının %10'undan fazlasına hastaneye yatış sebepleriyle ilişkili veya diğer sistemik hastalıklarına bağlı olarak cilt bulguları eşlik edebilmektedir. Çalışmamızda dermatolojiye konsülte edilen yatan ve ayaktan hastaların demografik ve klinik profillerini, hastaların klinikleri ve dermatoloji kliniklerinin tanıların uyumunu değerlendirmeyi, dermatoloji dışı kliniklerin uzmanlarının deri hastalıklarına yaklaşımlarını incelemeyi amaçladık.

Gereç ve yöntem: Çalışmamıza 473 hasta dâhil edildi. Hastaların yaş, cinsiyet, konsültasyon atılan branşları, yakınmaları, test istemleri, varsa patoloji sonuçları, ek başka bölümlere konsültasyon istemleri, tanıları, klinikler arası tanı uyumu, tedavileri not edildi.

Bulgular: 270 (%57,1) hasta erkek, 203 (%42,9) hasta kadındı. 473 hastanın ortalama yaşı 45,15±1,21'di (min. 0 and maks 96). En sık iç hastalıkları, pediatri, enfeksiyon hastalıkları, nöroloji ve kadın hastalıkları ve doğum kliniklerinden konsültasyon geldiğini tespit ettik.

Sonuç: Ayaktan ve yatan hastalar için dermatoloji bölümüne gönderilen konsültasyonlar hasta bakımında yol göstericidir. Asistanların uzmanlık eğitimlerinin geliştirilmesinde dermatolojik bakış açılarının kazandırılması açısından gerekli efor sarf edilmelidir. Tüm hastanelerde yeterli sayıda dermatolog bulundurulması, gelecekte dermatoloji konsültasyonlarında maksimum faydanın elde edilmesini sağlayacaktır.

Anahtar kelimeler: Dermatoloji, konsültasyon, iç hastalıkları, pediatri, enfeksiyon hastalıkları.

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Introduction

We often observe skin diseases in hospitalized and nonhospitalized patients. More than 10% patients of clinics except dermatology have skin findings relevant to their hospitalization or otherwise indicative of a systemic disease [1].

Dermatology inpatient consultation makes better quality of care, quality of life of patients and decreases health care costs because dermatology consultation enhances diagnostic accuracy [1, 2].

The information about dermatologic diseases are usually very poor in the other medical branches other than dermatology [3]. Consultations are important for functioning of healthcare in tertiary hospitals because these consultations are useful for education about dermatology of other scientist professionals' resident training. [1, 4, 5]. We know that very misdiagnoses about dermatological signs and their treatments can occur. For example, a retrospective study of 591 dermatology consultations at a teaching hospital showed that 78% of the cutaneous conditions were misdiagnosed by the admitting team [4].

In this study, we aimed to evaluate demographic and clinical profile of the patients. We aimed to observe whether the consultations are appropriate for dermatology clinic, and approaches of other specialists except dermatologist to basic dermatologic diseases.

Materials and methods

This study was a retrospective single-center study conducted over a period of one year from May 2018-May 2019 under the ethical principles reported in the Declaration of Helsinki. It was approved by the University of Health Sciences Tepecik Training and Research Hospital Non-Invasive Research Ethics Committee. All hospital inpatient and outpatient dermatology consultations were noted down and the written answer to consultation were finished within first 24 hours. Four hundred seventy three patients were included in our study. We noted ages and sexes of the patients, consulting department, complaint, whether any test was wanted, pathology results, pathologic diagnosis, need of additional consultations, departments of additional consultation, diagnosis, diagnostic compliance between clinics, treatment.

Statistical analysis

Statistical analyzes were performed using Statistical Package for Social Sciences (SPSS v.17.0, IBM Corporation, Armonk, NY, US) software. The normal distribution of data was tested by Kolmogorov-Smirnov and Shapiro-Wilk tests. Descriptive statistics were presented as means±standard deviations and ranges of minimum and maximum values.

Results

270 patients (51.9%) were male and 203 patients (42.9%) were female. Mean age of 473 patients was 45.15±1.21 (min. 0 and max 96). Mean age of male patients was 43.45±1.32 (min 0 and max 84), mean age of female patients was 48.56±1.44 (min 0 and max 96). List of the patients' clinics including intensive care units of each department (the most common ten of them) that requested consultations to dermatology clinic was presented in Table 1. In addition, 12 patients from brain surgery (2.5%), 11 patients (2.3%) were consulted from emergency, 11 patients (2.4%) from cardiology, 7 patients (15%) from urology, 5 patients (1.1%) from cardiovascular surgery, 4 patients (0.8%) from otorhinolaryngology, 3 patients (0.6%) from ophthalmology, 1 patient (0.2%) from psychiatry were consulted. Consultations from intensive care units (ICU) were 14 from neurology ICU (3%), 11 from anesthesia ICU (2.3%), 5 from coronary ICU (3%), 3 from general surgery ICU (0.6%), and 1 from general internal ICU (0.2%). Their amounts were in their speciality departments' total amounts list in the Table 1. List of complaints of patients (Table 2), list of prediagnoses of patients' clinics (Table 3), list of pathologic diagnosis (Table 4), list of clinical tests (Table 5) were detailed.

Among internal medicine department consultations 3 patients (0.6%) were presented from endocrinology, 1 patient (0.2%) from palliative care and 1 patient (0.2%) from rheumatology departments. In consultations from pediatrics, 21 patients from infant medicine (4.4%), 11 patients from pediatric emergency (2.3%), 11 patients from adolescent medicine (2.3%), 10 patients from infectious diseases (2.1%), 8 patients from oncology (1.7%), 6 patients (1.3%) were presented from nephrology, 6 patients (1.3%) from neurology, 5 patients (1%) from newborn pediatrics unit, 4 patients

Table 1. List of patients' clinics including intensive care units of each department (most common ten of them)

Clinic name	Number (n)	Persent (%)
Internal medicine	148	31.3
Pediatrics	94	19.9
Infectious diseases	41	8.7
Neurology	31	6.6
Gynecology	29	6
General surgery	19	3.9
Family medicine	18	3.8
Orthopedics	14	3
Employee health clinic	13	2.7
Anesthesia and reanimation	12	2.5

Table 2. List of complaints of patients (most common ten of them)

Complaint	Number (n)	Persent (%)
Skin rash	99	20.9
Pruritus	60	12.7
Permatitis	38	8
Erythema	33	7
Herpes (simplex+zoster)	20	4.2
Tinea pedis	18	3.8
Cellulite	17	3.6
Psoriasis	9	1.9
Ulcer	9	1.9

Table 3. List of prediagnoses of patients' clinics (most common ten of them)

Diagnosis	Number (n)	Persent (%)
Dermatitis	85	18
Scabies	31	6.6
Herpes (labialis+zoster)	22	4.6
Tinea pedis	22	4.6
Pruritus	17	3.6
Miliaria	13	2.7
Urticaria	13	2.7
Cellulitis	12	2.5
Xerosis	12	2.5
Contact dermatitis	11	2.3

Table 4. List of pathologic diagnosis

Pathologic diagnosis	Number (n)	Persent (%)
actinic damage	1	0.2
B lymphoblastic leukemia	1	0.2
basal cell carcinoma	1	0.2
dermatitis	3	0.5
epidermal necrosis	1	0.2
herpes simplex	1	0.2
hyperkeratosis	1	0.2
drug rash	2	0.3
intraepidermal pustule	1	0.2
cavernous hemangioma	1	0.2
lymphocytic vaskulitis	1	0.2
lypoid proteinosis	1	0.2
necrotising fungus infectious	1	0.2
nonspecific	1	0.2
perivascular dermatitis	3	0.5
squamous cell carcinoma	1	0.2
verru	1	0.2
spongyotic vesicular dermatitis	3	0.5
urticaria	1	0.2
Vasculitis	2	0.3

Table 5. List of clinical tests

Clinical tests	Number (n)	Persent (%)
Biopsy	20	4.2
Blood tests	16	3.4
Doppler usg	13	2.7
Swab culture	7	1.4
Pathergy	6	1.3
Superficial tissue usg	2	0.4
Tzanck	1	0.2

(0.8%) from pediatric surgery, 3 patients (0.6%) from endocrinology, 3 patients (0.6%) from cardiology, 2 patients (0.4%) from hematology, 2 patients (0.4%) from gastroenterology, 1 patient (0.2%) from general pediatrics, and 1 patient from immunology and allergy sub-medical units.

Required additional clinical tests from dermatologists were listed in Table 5. No additional laboratory tests were required from dermatologists to 408 patients. Dermatology consultants required additional consultation to other clinics for 18 patients (2.8%). These clinics were immunology and allergy (1),

otorhinolaryngology (1), neurology (1), plastic surgery (15). Dermatologists recommended specific topical treatments for 337 patients (71.2%), systemic treatments for 13 patients (2.7%), both topical and systemic treatments for 79 cases (16.7%). Diagnostic compliance between dermatologists and other specialists was 56.2%. 82 of all consultations (17.3%) were connected with primary disease and 391 consultations (82.7%) were connected with additional dermatologic disease.

Discussion

In this study, we analysed 473 patients referred from various departments for dermatological consultation.

Most of all consultations came from internal medicine department and its subgroups and as seconder, from pediatry and its subgroups. Yerebakan et al. [6] found also that most consultations came from internal medicine department (74%). This is an expected result because systemic disorders often have skin findings. Most 5 departments that sent consultations are internal medicine, pediatrics, infectious diseases, neurology and gynecology according to our study. In Çiçek's study [7], it can be detected that these departments are internal medicine (35.11%), emergency service (11.01%), pulmonary medicine (9.81%), pediatrics (7.44%) and physical therapy and rehabilitation (7.14%). In Aleem et al. [5] study these are internal medicine (48.99%), pediatrics (9.55%), neurology (4.16%), pulmonary medicine (3.43%), psychiatry (3.43%). In Chojer et al. [3] study most 5 departments are internal medicine (41.5%), gynecology (28.3%), pediatrics (8.9%), general surgery (7.7%), orthopedics (6.4%). Internal medicine has been shown to send maximum dermatology referrals in most of the literature [5]. These results are corroborating our results. Differently, Walia and Debs's study [8], surgery (29.8%) and internal medicine (29.7%) departments were responsible for more than half of the referrals to dermatologists.

We detected most 5 departments of internal medicine that sent consultations to dermatology are general internal medicine and its subgroups hematology, gastroenterology, nephrology and oncology. In Çiçek's study [7], most 5 departments are rheumatology (11.9%), endocrinology (10.11%), nephrology (4.76%), oncology (3.27%) and general medicine (2.65%).

We determined that most 5 complaints are routine examination, skin rash, pruritus, dermatitis and erythema and most 5 diagnoses are dermatitis, scabies, herpes, tinea pedis and pruritus. We often see patients with scabies in our outpatient clinics, the number of the patients increasing significantly for the last a few years. In Chojer et al. [3] study most 5 diagnoses

by the referral departments are skin rash (41%), skin infection (17.7%), vesiculobullous disorders (8.4%), drug rash (7%), oral/perioral lesions (6%) and most 5 final diagnoses by dermatologists are cutaneous infectious (55.3%), eczema (13.7%), cutaneous adverse drug reaction (10.2%), psoriasis (3.9%), connective tissue disorder (2.3%). Nahass's [9] found most 5 diagnoses as dermatitis, benign lesions, actinic keratoses, malign lesions, skin manifestations of systemic diseases. In Çiçek's [7] study most 5 diagnoses are infectious skin diseases, dermatitis, pruritus, urticaria and drug eruptions. This was detected in Aleem et al. [5] study as eczema, infection, acute cutaneous drug rash, papulosquamous disorders and connective tissue disorders.

We found that nondermatologists could provide an accurate dermatological diagnosis only in 56.2% of cases. This may be because of the use of the term "dermatitis" as a general prediagnose term. Dermatitis is a general diagnose for dermatology that needs to be detailed by subgroups of this skin condition. There can be mismatch between dermatitis types. Dermatology consultations can be beneficial for the postgraduate medical education. More lessons about general dermatology can be added in education of both medical students and postgraduate medical residents. In Chojer et al. [3] study, this rate is 25.23%. In another study from the USA [10], where the diagnostic accuracy was reported to be only 23.9% and lower when compared to another Indian study (39%) [11]. Because of these results, furthermore, dermatology consultations have been reported to have high educational value for non-dermatologists [4].

Biopsy is the gold standard test for diagnosing skin diseases. In our study skin biopsies were required from 4.2% of 473 patients, in different studies, researchers needed 4% to 12% of their patients [7]. Most 5 biopsy diagnoses in our study are spongiotic vesicular dermatitis, perivascular dermatitis, eczema, drug eruption, vasculitis.

In our study, 337 patients were recommended specific topical treatment (71.2%), 13 patients specific systemic treatment (2.7%), 79 patients topical and systemic treatment (16.7%) by consultants. In Adışen et al. [12] study, dermatologists recommended specific

systemic and/or topical treatments for 89.59% of 269 patients. In this study, dermatologists recommended topical antifungal for 44 patients, topical steroid for 31 patients, systemic antihistamines for 31 patients. In another study [7], 306 patients (91.07%) were given systemic and/or topical treatments (topical steroid for 71 patients, moisturizers for 68 patients, systemic antihistamines for 64 patients and topical antifungals for 47 patients).

We determined that most 5 consultations of internal medicine were sent by general internal medicine, hematology, gastroenterology, nephrology and intensive care unit, additionally, most 5 consultations of pediatrics were sent by infant medicine, emergency service, adolescent medicine, infectious diseases and oncology in our study. In Storan et al. [13] research, consultations from internal medicine came from especially hematology and oncology, because their institution is a bone marrow center. We can observe from this information that the general aim and specificity of institution is effective on consultation type. In Aleem et al. [5] study, they determined that most consultations from internal medicine department were sent by general internal medicine (21.81%), nephrology (7.59%), hematology (6.61%), gastroenterology (5.14%), endocrinology (4.9%). In this study, consultations from pediatrics weren't detailed for subgroup departments. These results are corroborating our results. Differently in Çiçek et al. [7] study, consultations from internal medicine were mostly from rheumatology (11.9%) and endocrinology (10.11%).

In our study we mentioned about pathological biopsy results. Especially with this point, we think our study contributes to the literature. Our research is also valuable in this respect that it informs regional disease trends.

We had some limitations about our study. We evaluated consultations notes and determined that there wasn't enough information about patients, basically there were treatment regimens and diagnoses, stories on diseases of patients weren't written in consultation notes. In some cases, biopsies were required but couldn't be completed because of ending of hospitalization for primary disease.

In conclusion, dermatology consultations are an important aspect of patient care.

Sufficient effort should be given during resident training for other speciality departments to gain experience in dermatology for general medicine. Future efforts to ensure that all hospitals, both community and academic, have enough dermatologists available for inpatient and outpatient consultations are needed to maximize efficiency in appropriate hospitalized patients.

Conflict of interest: No conflict of interest was declared by the authors.

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Contributions of the authors to the article

A.Ö. and M.G. prepared the main idea and hypothesis of the research. A.Ö. and M.G. developed the theory and wrote the section of materials and methods and evaluated the data in the results section. A.Ö. wrote the discussion section of the manuscript and M.G. reviewed the article and confirmed it. Also, all writers discussed all of the research and confirmed the last form of the work.