Dermatology Online Journal

Dermatology Online Journal
UC Davis

Letter: Dermatology inpatient consultation in a Portuguese university hospital

Iolanda Conde Fernandes MD, Glória Velho MD, Manuela Selores MD
Dermatology Online Journal 18 (6): 16

Dermatology Department, Hospital de Santo António (HSA), Centro Hospitalar do Porto (CHP), Porto, Portugal

Abstract

BACKGROUND: Cutaneous findings are frequent in hospitalized patients. There are few reports regarding this subject. OBJECTIVES: To identify the frequency and the impact on clinical courses of dermatologic conditions in patients in the inpatient setting and compare the data with other similar studies. METHODS: Retrospective review of 274 hospitalized patients in non-dermatology inpatient departments who were observed by a dermatology consultant in a Portuguese central university hospital during a year. RESULTS: A total of 282 consultations were performed. The services requesting consultation most frequently were internal medicine (33.7%), surgery (10.3%), and pediatrics (8.9%). Skin infections (33.2%), eczemas (9.5%), and drug eruptions (7.3%) were the most common diagnoses. Admission diagnosis was modified in 9 cases (3.3%) by the dermatology consultant. CONCLUSION: Dermatoses are frequently misdiagnosed by non-dermatologists. Common skin diseases were responsible for most of dermatology inpatient consultations. However, in some cases the dermatology consultation changed the primary main diagnosis and had an important impact on the clinical course.

Introduction

Dermatology consultation occurs mainly in the outpatient setting. In the last years, there has been a significant decline in the number of patients hospitalized by dermatology departments [**1**]. This may be a result of the changing conditions of medical care provided by dermatologists, related to the use of new and more effective therapies. Common dermatologic diseases and cutaneous signs of systemic disease are commonly present in hospitalized patients. Thus, the value of dermatologists as consultants within the hospital setting is increasing [**2**]. The reasons for inpatient dermatologic consultation, its frequency, and its impact on health care are not well documented [**3**]. In this context, it is important to analyze the dermatologist contribution to inpatient care.

Methods

A retrospective review of 282 dermatologic inpatient consultations was carried out over a 12-month period between January and December 2010 at our university hospital: Hospital de Santo António, Centro Hospitalar do Porto (Porto, Portugal).

The following data were assessed: demographics, requesting service, motive for admission, presumptive diagnosis and preliminary treatment, reason for consultation, diagnostic tests performed, final dermatologic diagnosis and treatment, number of visits, and the

Dermatology inpatient care was provided to patients on non-dermatology services at our hospital by a dermatology consultant accompanied by a resident.

Results

A total of 282 consultations were performed corresponding to 274 patients. The average number of patients seen per month was 24 (range: 18 – 30). A decrease in consultation numbers was observed during the summer months. These patients included 164 (60%) women and 110 (40%) men. The mean age was 59 years (range: 1 day – 93 years). More than 35 percent of patients were older than 60 years. Almost all specialities required the services of a dermatologist during the management of their patients. The services requesting consultation most frequently were internal medicine (33.7%), surgery (10.3%), pediatrics (8.9%), neurology (8.2%), and endocrinology (6.0%) (**Table 1**). The most frequent primary reasons for admission of patients receiving dermatologic consultations were infections (14.6%), cardiovascular diseases (12.0%), neurologic disorders (9.1%), and pulmonary diseases (8.8%).

Consulting service	Number	Percentage
Internal Medicine	95	33.7%
General Surgery	29	10.3%
Pediatrics	25	8.7%
Neurology	23	8.2%
Endocrinology	17	6.0%
Hematology	14	5.0%

Diagnosis	Percentage
Candidosis	6.6%
Morbilliform eruption	5.8%
Ulcers	5.5%
Herpes simplex infection	5.1%
Erysipelas	4.7%

Table 1 Table 2 **Table 1. Distribution of dermatology consultations per requesting service**

Table 2. Frequency of accurate dermatologic diagnoses made by dermatology

Ninety-seven different skin diseases were identified. Dermatology diagnoses by groups included skin infections (33.2%), eczemas (9.5%), drug eruptions (7.3%), ulcers (5.5%), psoriasis (4.0%), skin neoplasms (3.6%), autoimmune diseases (2.9%), and other diagnoses (34.0%), which were seen with a frequency of 5 cases or less. Candidosis (6.7%), morbilliform eruption (5.8%), ulcers (5.5%), herpes simplex infection (5.1%), erysipelas (4.7%), tinea infections (4.4%), and psoriasis (4.0%) were the most frequently observed conditions (**Table 2**). Systemic diseases with cutaneous manifestations accounted for 10.6 percent. Most of the observed skin diseases were not related to the reason for admission.

Sixty-three laboratory tests were performed. Biopsy was the most widely used procedure (34.8%). Twenty (87%) of them resulted in a definitive diagnosis. Other tests included mycological examinations (direct microscopy and culture) – 16 patients (24.2%), viral identification (viral culture and polymerase chain reaction) – 11 patients (16.7%), bacterial culture – 6 patients (9.1%), Tzanck smear – 5 patients (7.6%), and microscopic identification of mites in skin scrapings – 5 patients (7.6%). Of these, 65 percent were positive confirming the suspected diagnosis.

One hundred and twenty nine patients (47%) had started treatment for the skin condition before dermatology consultation. Treatment was changed by dermatology in 78 percent of these patients. The main recommended therapies by dermatologists included topical and systemic steroids, antihistamines, antivirals, antibiotics, and antifungal drugs as well as wound care and emollients.

Admission diagnosis	Requesting Service	Final diagnosis provided by dermatology
Drug eruption	Internal Medicine	Norwegian scabies
Burns on the feet	General Surgery	Bullous pemphigoid
ulmonary hypertension	Internal Medicine	Dermatomyositis
Erysipelas of the leg	Internal Medicine	Stasis dermatitis
Skin ulcers	Internal Medicine	Pyoderma gangrenosum
ncytopenia and pruritus	Internal Medicine	HIV infection
Rickettsial infection	Internal Medicine	Leukemia cutis
Psoriasis and fever	Internal Medicine	Cutaneous T-cell lymphom

Table 3 **Table 3. Admission diagnoses that were changed by dermatology**

The vast majority of patients (88.7%) did not require follow-up. Two patients diagnosed with bullous pemphigoid were transferred to the dermatology department for further treatment and only 8 patients required two visits. Thirty-one patients (11.3%) were subsequently referred to the dermatology outpatient department.

The clinical information provided by the consultation request was scarce in 85 percent of the cases and the dermatology consultant changed the preliminary dermatologic diagnosis in 65.0 percent of the patients. The services with the highest percentage of correct dermatologic diagnoses were internal medicine (37.4%) and pediatrics (29.2%).

In 9 cases (3.3%) dermatologist's diagnosis was extremely important because it modified the initial admission diagnosis and consequently had a considerable impact on final prognosis (**Table 3**).

Discussion and conclusions

Dermatology consultationplays an important role within the hospital setting. In general, our review was quite comparable to other series. Internal medicine, surgery, and pediatrics were the source of more than half of the referrals to the dermatologist as reported in other series [**4**, **5**]. This may be explained by the higher admission rates of these specialities. In 1994, Falanga et al reviewed 591 consults concluding that common skin diseases may not be recognized by non-dermatologists. They observed that dermatologic diagnosis and treatment was changed in more than 60 percent of the cases [**4**]. In contrast with our study, consult requests were more frequent for patients younger than 45 years in some studies. Ahamad et al analyzed data of 703 inpatients referred to dermatology during 5 years and they reported that 25 percent of the referrals were made by pediatrics services [**3**]. They identified 113 different dermatological diagnoses and one-fifth of the consultations were for skin infections [**3**]. Davila et al performed a retrospective chart review of 271 dermatologic consultations over 16 months and they also observed that common skin diseases accounted for a large majority of consultations and a correct dermatologic diagnosis was only made in 23.9 percent of cases prior to consultation [**6**]. In all studies, the most frequent diagnoses were eczema, drug eruption, and skin infection. We emphasise that drug eruption will become increasingly an important condition to take into account in hospitalized patients given the growing numbers of drugs provided to patients with multiple comorbidities. One interesting conclusion by Peñate et al was that the delay of less than 24 hours is of high importance. This should motivate non-dermatologists to request dermatology consultations and consequently to make this service attractive [**7**]. In our department, consultations are usually completed within 24 hours facilitating the access to our services. Nevertheless, it has also been shown that dermatologic consultations are very educational for non-dermatologists, another sensible reason to request dermatology cooperation [**8**].

Another remarkable point of this review is related to the significant impact of dermatology consultations on clinical course and management. The goal of reducing the cost of healthcare related to prolonged stays and ineffective therapies because of incorrect dermatologic diagnosis is an important one. We observed that dermatology consultation has changed some of the admission diagnoses initially proposed by other specialities. Once again, these findings highlight the inability of non-dermatologists to recognize either common skin diseases or more complex conditions. Recently, Mancusi et al evaluated and analyzed the impact of the consultations using a simple questionnaire for each consultation. They concluded that in 58 percent of cases the dermatology consultation was considered important (it aided in a diagnosis and/or treatment of a dermatologic disease) [**2**].

Our results suggest that common skin diseases are responsible for most of dermatology inpatient consultations in a Portuguese central university hospital. In some cases, dermatology consultant contribution was so relevant that it even changed the admission diagnosis and had substantial impact on clinical course and treatment. Diagnostic accuracy and treatment of hospitalized patients with skin manifestations, frequently misdiagnosed by non-dermatologists, were improved and resulted in decreased costs for the hospital. We can conclude that non-dermatologists often fail to recognize skin diseases. This reveals the need for special education and experience in this field and dermatologists are becoming more important as consultants in the hospital atmosphere.

References

1. Kirsner RS, Yang DG, Kerdel FA. The changing status of inpatient dermatology at American academic dermatology programs. *J Am Acad Dermatol* 1999;40:755-7. [**PubMed**]

2. Mancusi S, Neto CF. Inpatient dermatological consultations in a university hospital. *Clinics* 2010;65(9):851-855. [**PubMed**]

3. K Ahmad, B Ramsay. Analysis of inpatient dermatologic referrals: insight into the educational needs of trainee doctors. *Ir J Med Sci* 2009;178:69-71. [**PubMed**]

4. Falanga V, Schachner LA, Rae V, Ceballos PI, Gonzalez A, Liang G, Banks R. Dermatologic consultations in the hospital setting. *Arch Dermatol* 1994;130(8):1052-4. [**PubMed**]

5. Bauer J, Maroon M. Dermatology inpatient consultations: A retrospective study. *J Am Acad Dermatol* 2010;62(3):518-9. [**PubMed**]

6. Davila M, Chrisrenson LJ, Sontheimer RD. Epidemiology and outcomes of dermatology in-patient consultations in a Midwestern U.S. university hospital. *Dermatol Online J*. 2010;16(2):12. [**PubMed**]

7. Peñate Y, Guillermo N, Melwani P, Martel R, Borrego L. Dermatologists in hospital wards: an 8-year study of dermatology consultations. *Dermatology* 2009;219(3):225-31. [**PubMed**]

8. Itin PH. Dermatologic Consultations in the Hospital Ward: The skin, an Interdisciplinary Organ. *Dermatology* 2009;219:193-194. [**PubMed**]