

Original Article

Pattern of dermatological diseases in a Hong Kong regional hospital

香港一所地區醫院的住院病人的皮膚病型態

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Background: Dermatological consultations are common in hospital but its pattern is less studied. Neither its effect on patient management nor its difference to out-patient is well documented. **Objectives:** To study the clinicopathological pattern of skin diseases affecting in-patients in a regional hospital under the management of a dermatologist and to compare with a government centralised out-patient dermatological service. **Design:** Retrospective study. **Setting:** A regional hospital in the New Territories West, Hong Kong. **Patients:** All inpatient dermatological consultations made to the dermatology team from 1st January to 30th July 2007 in a regional hospital in Hong Kong. **Results:** During the study period, dermatological consultations were delivered to 455 patients. A total of 448 patients were recruited. Most of the consultations were requested by physicians (51.6%), orthopaedic surgeons (19%) and paediatricians (9.3%). Forty-three percent of pre-consultative diagnoses were not specific and labelled as 'skin rash' by the requesting clinicians. Specific diagnoses were given by the referring clinicians in 57% consultations and 61.3% of these were in agreement with that made by a dermatologist. Overall, 77% patients had an altered diagnosis after dermatological consultation and 85.4% of them had altered treatments. The most common diagnoses made by dermatologist were eczema (all types) (34.3%), cutaneous infection (23.9%) and drug eruption (10%). The latter two had significantly higher proportions in our study when compared with an out-patient dermatology clinic setting in Hong Kong. **Conclusion:** The quality of skin disease management was enhanced through dermatologist involvement. A difference in pattern existed between in-patient and out-patient settings.

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背景：皮膚科住院轉介服務在醫院中很常見，但當中的皮膚病型態研究不多。而此服務對病人的治理效益或與門診病人服務的分別的研究更為匱乏。**目的：**研究一所地區醫院內，由一名皮膚科醫生會診的住院病患的皮膚病臨床病理型態，並與政府轄下皮膚科門診服務作一比較。**設計：**回顧性研究。**場所：**香港新界西的一所地區醫院。**病患：**2007年1月至7月期間，一所香港地區醫院內所有轉介皮膚科會診服務的住院病患。**結果：**研究期間共收到455名住院病患的皮膚科會診轉介。本研究分析了當中448名病人，大部份個案轉介自內科專科醫生(51.6%)，其次是骨科(19%)及兒科(9.3%)。轉介個案中，43%病患沒有具體的轉介前診斷，只被標籤為「皮疹」；其餘57%的病患則附有具體的轉介前診斷，當中61.3%的診斷與皮膚科專科醫生吻合。整體而言，研究個案內的77%病患之皮膚診斷及85.4%病患之皮膚治療，在皮膚科專科醫生會診後有所修改。最常見的皮膚科診斷計有濕疹(34.3%)，皮膚感染(23.9%)及藥疹(10%)；與皮膚科門診服務比較，後兩者在研究的住院病患中顯著地佔較高比重。**結論：**皮膚科專科醫生的住院會診可提昇皮膚病的治理素質，而住院與門診服務病人群組存在着不同的皮膚病形態。

Keywords: Dermatological diseases, in-patient consultation, Hong Kong regional hospital

關鍵詞：皮膚病，住院病人轉介，香港地區醫院

Introduction

The number of hospital beds dedicated for patients with severe and chronic recalcitrant dermatological diseases is decreasing.¹ This is partly attributed to improvements in dermatologic care and treatments available in the out-patient setting,^{2,3} thus reducing the need of hospitalisation. As a result, dermatologists have fewer chances to deliver in-patient dermatologic services.

Recent studies showed that the in-patient management of skin diseases remains important, especially for those with severe skin conditions.⁴⁻⁷ Studies have also shown a need of dermatologists for in-patient services.⁸⁻¹⁰ The quality of life for patients with severe dermatological diseases has been shown to improve when they are cared for in the in-patient setting.^{7,11} The benefits include early detection of skin abnormalities, improved accuracy of diagnosis, and efficacy of treatment. Furthermore, the pattern of skin diseases seen in the hospital setting may be different from that in out-patient dermatology clinics. The epidemiology of local in-patient dermatological diseases is not known. Our study sought to

describe the clinical profile and characteristics of dermatological diseases in a local regional hospital over a consecutive period of seven months and to compare with those seen in the local out-patient dermatological setting catering to the same geographic region.

Methods

All in-patient dermatology consultations in Tuen Mun Hospital from 1st January 2007 to 30th July 2007 were reviewed. Tuen Mun Hospital is a regional hospital with 1822 acute admission beds, serving a population of 650,000 in the New Territories West region of Hong Kong.¹² During the study period, a dermatologist (WYM Tang) was responsible for all the consultations. All in-patient dermatological consultation records during the study period were reviewed for analysis. Information including patient demographics, consulting specialties, presenting dermatological symptoms and signs, pre-consultative diagnoses, laboratory investigation results, final diagnoses, and treatments pursuant to the skin conditions were recorded.

Results

Demographic data

A total of 531 consultations were delivered to 455 patients. Seven patients were excluded from the study because of incomplete clinical data. A total of 448 patients with 524 consultations were available for analysis. Of all the consultations, 51.6% were requested by the Department of Medicine & Geriatrics, 19% by the Department of Orthopaedics & Traumatology and 9.3% by the Department of Paediatrics. The pattern of distribution is shown in Figure 1.

The mean age of the patients was 55.4 years (range: 2 days to 99 years), with 48.7% male. Figure 2 shows the frequency distribution for different age groups. Forty percent of the patients were admitted primarily for their skin condition.

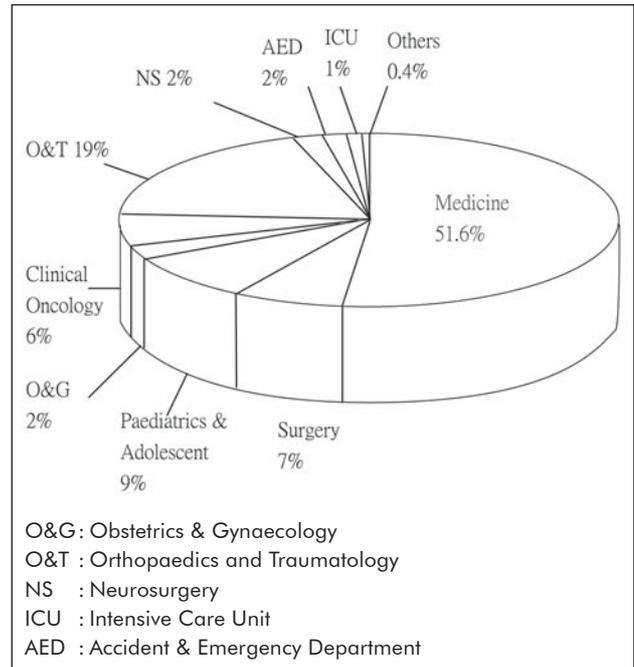


Figure 1. Distribution of consultations from different specialties.

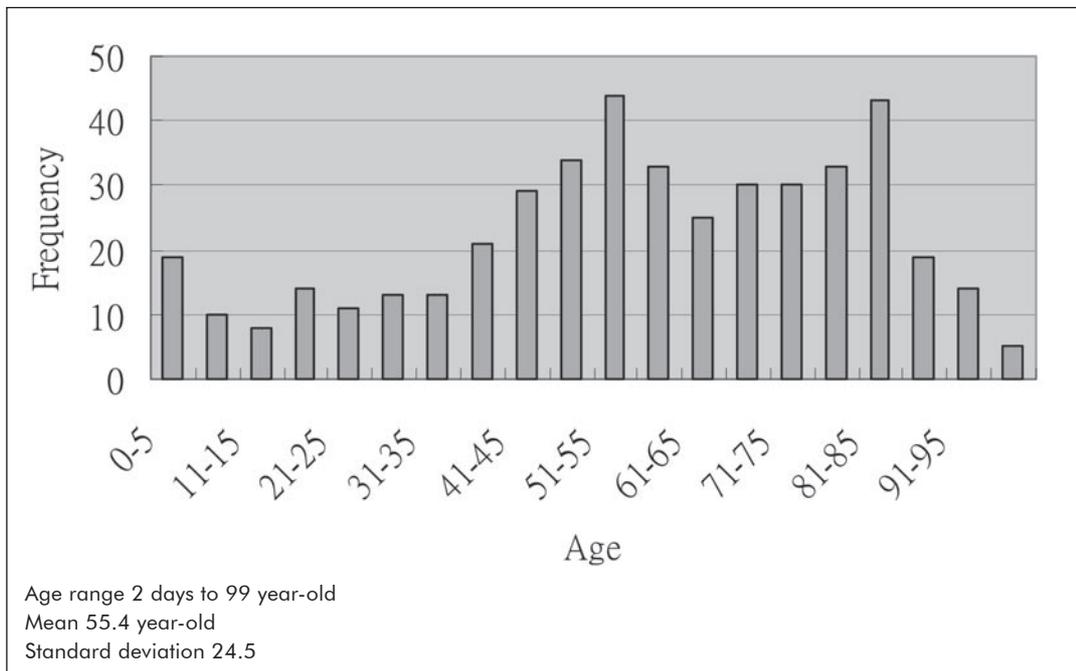


Figure 2. Age distribution of patients.

Clinical features

Among the chief complaints, itchy skin lesions rated the highest and accounted for 55.7%. Painful lesions were reported in 20.7%, while asymptomatic skin lesions were reported in 19.7% of patients/consultations. Mass lesions contributed to 1.5%.

The pre-consultation diagnosis was the suspected diagnosis made by the requesting clinician listed on the consultation form before assessment by the consulting dermatologist. 'Skin rash' was the commonest 'diagnosis' and accounted for 43% of the cases, while the other non-specific diagnostic entry included 'blisters' and 'ulcers' given in 19.4% of the consultations. A specific pre-consultation diagnosis was given in 37.5% cases. The most common diagnosis made was eczema, comprising 29.1% of all pre-consultative diagnoses, followed by psoriasis (7.7%) and urticaria (5.4%). Among the specific diagnoses given by the requesting clinicians, 61.3% were in concordance with the diagnosis made by the dermatologist. It was noted that in four cases labelled as eczema, psoriasis or drug rash by the requesting clinician, the final diagnosis was scabies after dermatological assessment.

The clinical signs were diversified: erythema was noted in 19%, eczematous lesions in 16% and scaling in 14.6%. Additional investigations were performed upon the dermatologist's assessment. Among them, skin biopsy was the commonest of all investigations (58%), followed by swabs for bacterial or viral cultures (17%) and skin scrapings for microscopy and culture for fungus or scabies (11%). Blood tests were suggested in 10% of cases.

Clinicopathological diagnoses

Eczema, cutaneous infections and drug eruptions were common and contributed to 34.3%, 23.9% and 10% of the total specific dermatological diagnoses made respectively. Drug eruption was the third commonest clinical diagnosis in our series. Among all the drug eruption cases, 78% were non-specific, 8.6% were fixed drug eruptions

and 4.3% were drug-induced erythema multiforme. Another 4.3% were Stevens-Johnson Syndrome and toxic epidermal necrolysis. The clinical diagnoses reported in descending order of frequency were eczema (158, 34.3%), cutaneous infection (110, 23.9%), drug eruption (46, 10%), dermatological manifestation of systemic disease (38, 8.3%), psoriasis (19, 4.1%), autoimmune blistering disease (17, 3.7%), urticaria (10, 2.2%) and cutaneous neoplasm (9, 2%). The details are tabulated in Table 1.

Of all the skin biopsies, 81.4% of histopathological diagnoses were compatible with the clinical diagnoses made by the dermatologist. Specific treatments ordered included topical medicaments (46%), systemic treatments (6.3%) and topical plus oral treatments (36.6%).

In all patients, 387 cases (86.4%) were settled with one skin consultation, while a second review assessment was required for 49 patients (11%). Only 12 patients (2.7%) required three or more consecutive assessments.

Discussion

Our study analysed the characteristics of the in-patient dermatological consultations and clinical progress of the patients during their hospital stay within the 7-month study period. As reported in other studies, the management of patients with dermatological problems indeed altered when management of the skin problem transferred from the non-dermatologists to the dermatologist. In our patients, the definitive diagnosis was made or revised by the dermatologist in 77% of patients, with 85.4% requiring alteration of the treatment regimen. The change included addition or deletion of medications and sometimes surgical intervention such as skin biopsies. A total of 125 biopsies were performed accounting for 28% of the patients. A high clinicopathological concordance was also reflected in our study as 81% of the skin biopsies showed a histological

Table 1. Disease patterns of inpatient consultations

Diseases	Number of diagnoses N=460, n (%)
Eczema	158 (34.3%)
Atopic	20 (4.3%)
Contact	22 (4.8%)
Asteatotic	10 (2.2%)
Seborrhoeic dermatitis	7 (1.5%)
Unclassified	99 (21.5%)
Infection/infestation	110 (23.9%)
Impetigo/cellulitis	15 (3.3%)
Herpes infection	18 (3.9%)
Viral exanthema	4 (0.9%)
Superficial fungal infection	38 (8.3%)
Scabies	23 (5.0%)
Wart	4 (0.9%)
Folliculitis	8 (1.7%)
Drug eruption	46 (10 %)
Fixed drug eruption	4 (0.9%)
Stevens-Johnson syndrome/toxic epidermal necrolysis	2 (0.4%)
Erythema multiforme	4 (0.9%)
Non-specific	36 (7.8%)
Systemic disease	38 (8.3%)
Vasculitis	20 (4.4%)
Panniculitis	8 (1.7%)
Autoimmune disease*	6 (1.3%)
Renal pruritus	4 (0.9%)
Psoriasis	19 (4.1%)
Autoimmune blistering disease	17 (3.7%)
Urticaria	10 (2.2%)
Benign and malignant neoplasm	9 (2%)
Basal cell carcinoma/Squamous cell carcinoma	4 (0.9%)
Cutaneous lymphoma	2 (0.4%)
Melanocytic naevus	2 (0.4%)
Actinic keratosis	1 (0.2%)
Others	53 (11.5%)
Total	460 (100%)

Subtotal percentage of each diagnosis was to the nearest one decimal place

Note: the percentage showed only for those whom a specific dermatological diagnosis made (some patient may have more than one diagnosis, some patient may not have a specific dermatological diagnosis after consultation)

*including 3 dermatomyositis, 1 scleroderma, 1 juvenile rheumatoid arthritis and 1 connective tissue disease

diagnosis compatible to that made clinically. This is in concordance with other investigators who reported a change of diagnosis and treatment in more than 60% of patients.^{10,11} In addition, our study showed that 40.4% of all the patients were admitted primarily for their skin condition, reiterating the importance of dermatology services in the hospital.

Our data was compared with statistics from the Social Hygiene Service (SHS), Centre for Health Protection, Department of Health, Government of the Hong Kong SAR. The SHS is the main public dermatological service provider which provides approximately 40% of total public demand of dermatological services in Hong Kong. Clients attending the SHS are primarily out-patients. The comparison of disease patterns is shown in Table 2. The commonest dermatological diagnosis was eczema (all types) and is comparable in both groups (SHS 28% versus 34.3% our study). The second commonest was superficial fungal infection (SHS 8.2% versus 8.26% our study). Psoriasis shared similar statistical figures (SHS 3.0% versus 4.1% our study). However, our in-hospital patients had significantly higher rates of drug eruptions of 10% versus 0.2% at the SHS. The rate was not listed as a discrete diagnostic category in SHS. On the contrary, seborrhoeic keratosis was

frequently a presenting complaint seen at the SHS and accounted for 4.3% of all new skin diseases, but was not a presenting complaint in our in-patients. This is obviously related to the greater severity of skin problems among those admitted to the hospital. Superficial skin infections were common in both groups; but we found a significantly higher rate of scabies (5%) compared with that reported at the SHS (0.4%). Nosocomial scabies infestation was common.

This study is a single centre study done within a limited period of duration. Although the time span is comparable to similar study done in the United States,⁹ the limited study duration may fail to demonstrate the possible differences in disease pattern in other seasons.

To conclude, the results of our study demonstrate a similarity and difference in skin disease patterns between in- and out-patient dermatological patients. The high rate of treatment modification after dermatologist's assessment supports a continued need for dermatologist service in the hospital. The higher incidence of cutaneous infections and drug eruptions noted in the in-patient setting implies that it is necessary to heighten the awareness of these conditions. Ample opportunities for in-patient dermatology training

Table 2. Comparison of pattern of some diseases with Social Hygiene Service in Year 2007

Disease	Percentage in Social Hygiene Service	Percentage in our study
Diseases with large difference		
Wart	11.6	0.87
Seborrhoeic keratosis	4.3	0
Acne	3.6	0
Scabies	0.4	5
Drug eruption	0.2	10
Diseases with less difference		
Eczema	28.5	34.3
Tinea infection	8.2	8.26
Psoriasis	3.0	4.1

and continuing professional development in these areas should therefore be made available to both the dermatology trainees and specialists.

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