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CLINICAL REPORT

Referral Pattern of Skin Diseases in an Acute Outpatient Dermatological Clinic in Copenhagen

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The referral pattern of acute dermatologic conditions is not well described in either outpatients or hospitalized patients. The aim of this study is to describe in more detail the skin diseases that were referred for evaluation in an acute outpatient clinic at Bispebjerg Hospital, Copenhagen. In a 3-month period in 2003 a total of 428 consecutive new patients were referred for various skin diseases that needed subacute and acute dermatological evaluation in a university hospital setting. Referral pattern, age ratio and sex ratio were examined retrospectively. Two hundred and twenty-five (53%) of the 428 patients were referred from other hospital clinics in the local area. Sixty-six (15%) were referred from private practising dermatologists and 64 (15%) from general practitioners in the City of Copenhagen. Referral information was not noted in 35 (8%) of the 428 patients. The most prevalent diagnoses were: unspecified eczema (10.7%), drug eruptions (6.3 %), psoriasis (6.3%), atopic dermatitis (5.6%), bacterial skin infections (4.0%), inflammatory skin disorders (3.7%), seborrhoeic dermatitis (3.5%), urticaria (3.0%), seborrhoeic keratosis (3.0%), toxic contact dermatitis (2.8%), ulcus cruris (2.8%), autoimmune diseases (2.8%), malignant skin tumours (2.5%), candidiasis (2.5%), pruritus/prurigo (2.5%) and viral skin infections (2.5%). The fact that drug eruptions are one of the leading causes of acute referral conditions probably reflects the proximity to other hospital settings, where a large number of patients receive several systemic medicaments for various conditions. ***Key words: acute outpatient clinic; referral pattern; drug eruptions.***

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Acute dermatology is an established part of the dermatologic speciality. A number of skin diseases have a severity that requires either a subacute or acute evaluation by a trained dermatologist. The university-based outpatient clinic at our hospital receives patients from both local general practitioners (GPs) and private practising dermatologists in the region. In addition, a part of the acute dermatologic service includes an assessment of skin disorders in patients primarily hospitalized due to various non-dermatologic diseases.

The referral pattern of acute dermatologic conditions is not well described in either outpatients or hospitalized patients. We have therefore found it of interest to describe in more detail the skin diseases that were referred for evaluation in our acute outpatient clinic.

MATERIALS AND METHODS

At Bispebjerg Hospital, Copenhagen, an electronic patient journal was introduced in November 2002. Electronic patients' journals of a chosen period of 12 weeks (January to March 2003) were examined retrospectively with regard to describing the referral pattern including the distribution of diagnoses made for patients who were seen in our acute outpatient clinic in that period of time.

The acute outpatient clinic is specifically designated for urgent dermatologic problems. The hours of the acute outpatient clinic are Monday to Thursday from 8.20 am to 3.30 pm, and Friday from 8.30 am to 2.30 pm. The staff in the acute outpatient clinic include one nurse and a secretary besides the dermatologist, who can be either a specialized dermatologist or a senior registrar. Acute referrals are based on a telephone dialogue with the dermatologist in charge of the acute outpatient clinic; this means requests from GPs, private practising dermatologists, colleagues from other departments of the hospital and from other hospitals in the area, and also from patients known in the department who call with an acute flare up in a known dermatologic skin disorder.

The dermatologist can arrange an acute evaluation of the patient within 24 hours or a subacute evaluation within 48 hours to 1 week. After 3.30 pm the dermatologist in charge of the general department of dermatology can arrange this. Most of the requests for acute referrals are accepted, as it can be difficult to make an appointment for evaluation in the general outpatient clinic within a month. Some of the requests for acute/subacute referrals are handled by a secretary who receive faxes from departments of internal medicine and subsequently arranges appointments on an 'internal appointment schedule', which is a service offered to these departments, in the acute outpatient clinic. Usually an appointment at the general outpatient clinic is based on a written referral from either GPs or private practising dermatologists.

A total of 731 patient contacts were registered in the 3-month period, of which 428 were newly referred for acute or subacute skin diseases. Fifty-five (13%) of the 428 patients were seen twice, 9 (2%) three times, and 4 (1%) were seen four times over the period in the acute outpatient clinic. Overall 68 (16%) of the 428 patients were seen more than once. The percentage of the 428 patients who were seen in the general dermatology outpatient or inpatient clinics during the study period was not registered in this study.

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The total number of patients was then 663 (731 minus 68), which makes the percentage of new patients 65%. The remaining 235 patients (35%) all had an established skin disease with an urgent flare up that needed treatment. The data for these latter patients are not included in this study.

Age, sex ratio and referral pattern were examined retrospectively. The diagnoses registered were the final diagnoses given after additional relevant examination including allergic skin patch tests and histology.

RESULTS

The age and sex distribution of the 428 patients are summarized in Table I. There was an overall predominance of women represented in the study period of 59%, with an equal sex ratio in the age groups 0–15, 46–60 and 61–75 years. As regards age distribution, 39 (9%) of the patients were children below the age of 16 years, 95 (22%) were elderly people over the age of 76 years.

The referral pattern is shown in Table II. Most of the patients were referred from other hospital clinics (52.5%), of which 45% were referred from departments of medicine. Referrals from private practising dermatologists and GPs constituted 15.5% and 15%, respectively.

The distribution of the diagnoses of the 428 patients referred for acute or subacute evaluation is shown in Table III.

The most prevalent diagnoses of the referrals from the private practising dermatologists were: dermatitis unspecified ($n=10$), psoriasis ($n=9$), malignant skin tumours ($n=7$), atopic dermatitis ($n=5$), infestations ($n=3$), urticaria ($n=3$), allergic contact dermatitis ($n=2$), vasculitis ($n=2$), bacterial skin infections ($n=2$), vascular skin tumours/malformations ($n=2$), rheumatic diseases ($n=2$), erythroderma ($n=1$).

The clinical aspects, age and sex ratio, referral pattern and drugs implicated in the 27 patients diagnosed as drug eruptions were as follows. Twenty-seven (6.3%) of the 428 patients presented with an acute drug eruption classified as: exanthematous ($n=12$), unspecified or minimal rash ($n=7$), urticaria ($n=3$), eczematous reaction ($n=2$), Steven Johnson syndrome ($n=1$), cutaneous lupus erythematosus ($n=1$) and palmar erythema ($n=1$). The most prevalent causative drugs were antibiotics (44%), with penicillin as the most frequent (18.5%)

Table I. *Age and sex ratio of 428 consecutive patients referred for subacute or acute dermatologic evaluation*

	Female	Male	Total
Age (years)	*n* (%)	*n* (%)	*n* (%)
0–15	18 (4.0)	21 (5.0)	39 (9.0)
16–30	43 (10.0)	20 (5.0)	63 (15.0)
31–45	47 (11.0)	28 (6.5)	75 (17.5)
46–60	41 (9.6)	42 (9.8)	83 (19.5)
61–75	36 (8.4)	37 (8.6)	73 (17.0)
76+	69 (16.0)	26 (6.0)	95 (22.0)
Total	254 (59.0)	174 (41.0)	428 (100.0)

Table II. *Referral pattern of 428 consecutive patients*

Referral pattern	*n*	(%)
Other hospital clinics (total)	225	(52.5)
Medicine	103	(45.0)
Surgery	27	(12.0)
Neurology	23	(10.5)
Psychiatry	22	(10.0)
Others (own referrals*)	16	(7.0)
Emergency departments	12	(5.5)
Unknown	10	(4.5)
Paediatrics	9	(4.0)
Gynaecology/obstetrics	3	(1.5)
Private practising dermatologists	66	(15.5)
General practitioners	64	(15.0)
Others (self-attendance of employees)	38	(9.0)
Unknown	38	(8.0)

*Examination of family members of patients with scabies, etc.

Table III. *Distribution of the most common diagnoses*

Diagnosis	*n*	(%)
Unspecified eczema	46	(10.7)
Drug eruptions	27	(6.3)
Psoriasis	27	(6.3)
Atopic dermatitis[a]	24	(5.6)
Bacterial skin infections	17	(4.0)
Inflammatory skin disorders[b]	16	(3.7)
Seborrhoeic dermatitis	15	(3.5)
Seborrhoeic keratosis	13	(3.0)
Urticaria	13	(3.0)
Autoimmune diseases[c]	12	(2.8)
Toxic contact dermatitis	12	(2.8)
Ulcus cruris	12	(2.8)
Candidiasis	11	(2.5)
Malignant skin tumours	11	(2.5)
Pruritus/prurigo	11	(2.5)
Viral skin infections	11	(2.5)
Asteatotic eczema	9	(2.1)
Disorders of sebaceous glands	9	(2.1)
Stasis dermatitis	9	(2.1)
Allergic contact dermatitis	8	(2.0)
Erysipelas	8	(2.0)
Exanthemas unspecified/virogenes	8	(2.0)
Vasculitis	8	(2.0)
Vascular skin tumours/malformations	7	(1.6)
Benign neoplasms	6	(1.4)
Bullous diseases	6	(1.4)
Infestations	5	(1.2)
Dermatophytosis	4	(0.9)
Miscellaneous	63	(15.0)

[a] The group 'bacterial skin infection' includes abcessus cutis ($n=3$), actinomycetoma ($n=1$), folliculitis ($n=6$), impetigo ($n=6$) and paronychion ($n=1$).

[b] The group 'inflammatory skin disorders' includes erythema nodosum ($n=5$), erythema multiforme ($n=1$), lichen planus ($n=5$), pityriasis rosea ($n=3$), pyoderma gangrenosum ($n=1$), Steven Johnson syndrome ($n=1$).

[c] The group 'autoimmune diseases' includes adult juvenile rheumatoid arthritis ($n=1$), alopecia areata ($n=1$), dermatomyositis ($n=2$), graft-versus-host disease ($n=2$), Raynaud-associated ulcers ($n=1$), scleroderma (limited systemic; $n=1$), subacute cutaneous lupus erythematosus ($n=4$).

followed by ampicillin/pivampicillin (11%). The second most prevalent drugs were antihypertensive agents (15%).

Most of the patients with drug eruptions were referred from departments of medicine (37%), followed by departments of surgery (22.2%), departments of neurology/psychiatry (14.8%) and general practice (14.8%).

The most frequently represented group were patients aged above 61 years (56%), with men dominantly represented in the age group 61–75 years and women exclusively representing the age group above the age of 75 years.

DISCUSSION

The referral pattern of acute dermatologic conditions is not well described in either outpatients or hospitalized patients. One study previously published the number of new referrals over a period from 1986 to 1995 at a hospital dermatological clinic in Copenhagen, showing that the total number of patients referred to the hospital outpatient department remained static but that the case-mix underwent considerable change, with the number of diagnoses with a prevalence of $>1\%$ being reduced. The 10 most common diagnoses were identified for each of the years studied, with psoriasis and atopic dermatitis being represented each year (1).

In our study unspecified eczema, drug eruptions, psoriasis and atopic dermatitis were the four most prevalent diagnoses, together accounting for 29% of the diagnoses.

The number for seborrhoeic keratosis is relatively high. This signals that the referring physicians are inexperienced in dermatology, as they cannot discriminate this benign lesion from premalignant or malignant tumours.

At the moment there are no guidelines for acute referrals in the clinic. However, it is a point of significance if such guidelines were sent out to various hospital clinics, as common skin problems might be managed by an internist, or, if the guidelines were not supportive enough, referred to the general dermatologic outpatient clinic.

In a prospective study of 591 inpatient dermatologic consultations over a period of 8 months the most common reason for consultation was drug eruption (8.8%), followed by papulosquamous eruptions and skin infections (2). Other studies have shown a lower incidence of drug eruptions, one with an incidence of 1.2% in outpatients and 0.1% in inpatients in a study that included all inpatients and outpatients at a university dermatology clinic (3).

Another study showed the prevalence of drug eruptions to be higher in patients hospitalized in medical departments (0.5%) than in surgical departments (0.01%), and showed that the most concerned departments were the departments of infectious diseases and dermatology (4). Most of the patients with drug eruptions in our study were referred from departments of internal medicine but none from a department of infectious medicine. This could be partly because a dermatologic service is available at the hospital of one of the departments of infectious medicine in Copenhagen.

Most of the adverse cutaneous reactions seen in our study were of exanthematous nature (44.4%), followed by unspecified rash and urticaria as the second and third most common reactions, respectively. Antibiotics were the most common drugs responsible for drug eruptions (44.4%), which confirms data already known from other studies (3–5).

Multi-medication and increasing age also seem to be risk factors for developing cutaneous drug reactions (5). Sixteen (59%) of the patients with drug eruptions in this study took more than two medicaments, they were all in the age group from 57 to 97 years, mean age 75 years.

Only a few reports have been published defining the referral pattern of skin diseases. Most are prospective studies with standardized questionnaires (2–4). In a retrospective study some data are likely to be missed, as it depends on the physician who has seen the patient (e.g. a history of previous adverse reaction to drugs and an exact list of the drug intake may not be recorded).

In a dermatology private practice three dermatologists saw, over a period of 1 year in 2002, 21 (0.2%) patients with drug eruptions out of 10,606 first-time consultations (Niels K. Veien, Aalborg, personal communication). The fact that drug eruptions are more prevalent in a university hospital clinic than in private dermatological practice may be explained by the proximity of our clinic to other highly specialized hospital clinics, with patients receiving intensive treatment with a variety of drugs. However, among unselected patients in a family medicine outpatient clinic adverse drug reactions were described in 6.3%, a prevalence comparable to our findings (5).

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