Analysis of Skin Diseases in a Referral Pediatric Dermatology Clinic in Thailand

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Abstract

The retrospective study of skin diseases in children less than 13 years old was performed at the referral Pediatric Dermatology Clinic, Siriraj Hospital, Thailand. It included 4,265 visits made by 2,361 patients. The prevalence and demographic data of all diagnoses were analysed. In children, eczematous dermatitis was the most common (41.2%), followed by skin infections (21.9%), pigmentary disorder (7.0%), hypersensitivity skin diseases (4.1%), and others. Atopic dermatitis was the most common type of eczema in children (6.0%). The entity of contact dermatitis, scabies, vitiligo, tinea capitis, alopecia areata, papular urticaria, impetigo and urticaria represented 4.9, 4.1, 4.1, 3.3, 2.4, 2.3, 2.3 and 2.2 per cent, respectively. These data may be useful in planning the dermatologic education and health care program for Thai children in the future.

Key word : Skin Diseases in Children, Pediatric Dermatology Clinic

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J Med Assoc Thai 2000; 83: 999-1004

Dermatologic problems are common reasons for parents to bring their children to physicians. They often produce as much, or more, distress, cosmetic disfiguring or embarrassing lesions to affected children and parents. A survey conducted in a general pediatric clinic located in a tertiary care facility in the United States found that 24 per cent of patient visits had a primary or secondary skin complaint and cutaneous lesions were observed at 31 per cent of visits[1]. The pattern of skin diseases differs in different countries. There are significant differences in the type of skin diseases in children and adults. It is necessary to monitor the epidemiology of these diseases in children. Epidemiology studies of skin diseases are important in the study of disease pattern and planning for health education programs and services. Recognition of frequent diseases can provide dermatology care for children.

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This study was to determine the prevalence and types of dermatologic problems in children who attended a tertiary referral skin clinic.

MATERIAL AND METHOD

A retrospective analysis was made of the records of patients who attended the referral Pediatric Dermatology Clinic, Siriraj Hospital, in Bangkok, Thailand. All patients who attended this clinic from January 4th, 1993 to December 29th, 1997 were included. The patients seen in the clinic were evaluated by pediatric dermatologists. The diagnosis at each visit was based on standard clinical features and laboratory investigation where indicated. The patient's sex, age at first visit when the complaint was active, and clinical diagnoses were recorded. The disease prevalence and the demographic data of the patients were analysed. The prevalence rate of a disease was defined as the frequency of the disease seen over the total number of attendances during the study period. Several diagnostic categories were grouped into larger classification. Patients under 13 years of age were considered in the pediatric group in this study. The diseases were divided by age into 4 groups, conditions seen particularly in the first year of life, between 1-6 years, between 6-10 years, and more than 10 years. Statistics were calculated by associating several dermatologic disorders with many parameters.

RESULTS

Analysis of data revealed a total number of 2,361 patients consisting of 1,190 (50.4%) males and 1,171 (49.6%) females (Table 1). The male to female ratio was 1 : 1. There were 4,265 visits making an average of 1.75 visits per patient and 1.52 visits per patient per year. Of our patients, 68 per cent came for only one visit. This group consisted of those who did not require further treatment, those who failed to keep return appointments, and those who were advised to return only if their diseases reoccurred or persisted. The patients with chronic bullous dermatosis of childhood averaged the most visits per year (4.5) in this clinic.

The patients' ages ranged from 1 day to 13 years with an average of 4 years and 11 months. According to age, 502 (21.3%) patients were less than 1 year old, 1,039 (44.0%) between 1 and 6 years, 627 (26.5%) between 6 and 10 years, and 194 (8.2%) older than 10 years of age.

The prevalence of different skin diseases is shown in Table 2. There were 30 patients having 2 diagnoses at the same time making a total of 2,391 diagnoses. Unclassified dermatitis was the most common diagnosis, followed by atopic dermatitis, which was the most common endogenous eczema seen in children. The dermatologic disorders were also classified into different groups (Table 3). The eczematous dermatitis group was by far the most commonly found. The second most frequent category was skin infections, of which fungal infection made up half this number. When comparing the diagnoses with the age groups of the patients, most diseases were found in preschool children (1-6 years), except seborrheic dermatitis, nummular eczema, vitiligo, psoriasis, and alopecia areata. Seborrheic dermatitis was mostly found in infants while nummular eczema, vitiligo, psoriasis and alopecia areata were commonly found in 6-10 year old children. Table 4 illustrates the number of patients, sex, mean age of onset, and the number of visits per year of the ten most common diseases. For most common diseases in this study, there was no obvious difference in sex incidence except vitiligo, hand eczema and psoriasis, which were more common in females with the ratio of 2 : 1, 2 : 1 and 1.6 : 1 respectively.

Table 1. The distribution of patients seen in each year.

Year	No. Visits	No. Patients	Male : Female	Ratio
1993	1,055	587	307 : 288	1.1 : 1.0
1994	862	462	239 : 223	1.1 : 1.0
1995	823	464	239 : 225	1.1 : 1.0
1996	722	359	174 : 185	1.0 : 1.1
1997	803	489	231 : 258	1.0 : 1.1
Total	4,265	2,361	1,190 : 1,171	1.0 : 1.0

Table 2. Diagnoses and the number of patients affected.

Diagnosis	No. Patients	% Diagnosis	Cumulative Percentage
1. Unclassified dermatitis	452	18.90	18.90
2. Atopic dermatitis	143	5.98	24.88
3. Contact dermatitis	116	4.85	29.73
4. Scabies	99	4.14	33.87
5. Vitiligo	98	4.10	37.97
6. Tinea capitis	78	3.26	41.23
7. Alopecia areata	58	2.43	43.66
8. Impetigo	55	2.30	45.96
9. Papular urticaria	55	2.30	48.26
10. Urticaria	52	2.18	50.44
11. Dyshidrosis	43	1.80	52.24
12. Pityriasis alba	39	1.63	53.87
13. Seborrheic dermatitis	38	1.59	55.46
14. Pityriasis versicolor	37	1.55	57.01
15. Bacterial skin infections	34	1.42	58.43
16. Keratosis pilaris	33	1.38	59.81
17. Psoriasis	33	1.38	61.19
18. Alopecia	32	1.34	62.53
19. Miliaria rubra	31	1.30	63.83
20. Candidiosis	30	1.25	65.08
21. Hyperpigmentation	26	1.09	66.17
22. Hypopigmentation	24	1.00	67.17
23. Tinea corporis	24	1.00	68.17
24. Pityriasis rosea	24	1.00	69.17
25. Tinea unguium	23	0.96	70.13
26. Other dermatophytoses	21	0.88	71.01
27. Allergic drug & food eruption	21	0.88	71.89
28. Lichen simplex chronicus	18	0.75	72.64
29. Epidermal nevi	17	0.71	73.35
30. Scleroderma	17	0.71	74.06
31. Other diagnoses	620	26.94	100.00

Table 3. Group classifications of dermatologic disorders and the number of patients affected.

Classification	No. Patients	Per cent	Cumulative percentage
1. Eczematous dermatitis	984	41.15	41.15
2. Skin infections	524	21.92	63.07
3. Pigmentary disorders	168	7.03	70.10
4. Hypersensitivity skin diseases*	99	4.14	74.24
5. Hair disorders	95	3.97	78.21
6. Papulosquamous & Exfoliative dermatitis	88	3.68	81.89
7. Hereditary skin diseases	43	1.80	83.69
8. Nevi & Hemangioma	43	1.80	85.49
9. Collagen & Vascular diseases	31	1.30	86.79
10. Other diagnoses	316	13.21	100.00

* Hypersensitivity skin diseases include urticaria, angioedema, drug & food eruption, EN and EM.

Table 4. Comparison among the 10 most common diagnoses.

Diagnosis	No. Patients	%	No. Visits/yr	Mean Age of Onset (yr)	Sex (M : F)
1. Unclassified dermatitis	452	18.90	1.39	4.80	1.0 : 1.1
2. Atopic dermatitis	143	5.98	1.89	3.96	1.0 : 1.0
3. Contact dermatitis	116	4.85	1.42	4.27	1.2 : 1.0
4. Scabies	99	4.14	1.43	3.10	1.4 : 1.0
5. Vitiligo	98	4.10	2.10	6.72	1.0 : 1.9
6. Tinea capitis	78	3.26	1.97	6.54	1.1 : 1.0
7. Alopecia areata	58	2.43	2.15	7.02	1.3 : 1.0
8. Impetigo	55	2.30	1.29	4.78	1.0 : 1.0
9. Papular urticaria	55	2.30	1.39	4.30	1.1 : 1.0
10. Urticaria	52	2.18	1.46	3.31	1.2 : 1.0

DISCUSSION

The nomenclature and diversity of pediatric dermatologic diseases often seem overwhelming to pediatricians and general practitioners. A sense of discomfort often troubles them when faced with neonate, infant or children with skin diseases. A better understanding of the cutaneous diseases affecting children will ensure that physicians recognize and manage the common problems. This analysis revealed that 75 per cent of all diagnoses seen in our Pediatric Dermatology referral clinic were presented by the 30 most frequent diagnoses. In order to add the last 25 per cent of the patients, an additional 111 diagnostic entities needed consideration. Almost 41 per cent of the lesions were the result of eczematous dermatitis. Relationships between types of eczema have been based upon the principle of clinical findings. There are many eczema cases which cannot be readily fitted into a major grouping. Our data confirms that the majority of cutaneous disorders encountered in a medical school setting may be grouped into relatively few diagnostic categories. The primary diagnosis of dermatitis, skin infections, and pigmentary disorders accounted for 70 per cent of diagnoses.

The prevalence of atopic dermatitis in children was 6.0 per cent. It tends to begin in childhood, 1-6 years, and decreases after 10 years[2,3]. Contact dermatitis was the third most common skin disease in this study. The high prevalence was the same as the study in the United States[4]. In Singapore, contact dermatitis was very uncommon in children compared with adults[5].

The prevalence of transmissible skin diseases was high in developing countries. The rate of scabies infestation was as high as in some African countries[6]. Skin infections including fungal, bacterial, parasite and viral infection comprised the second most common category found. The prevalence was high among young children and related to overcrowding, poor personal hygiene, negligence, and lack of awareness. Improvement in standards of family hygiene would reduce the prevalence of such infections as scabies, impetigo and lice.

Pigmentary disorders were common in Asian countries such as Singapore, Japan, Hong Kong and South Korea[7]. The original eruption may have been very mild and may have resolved completely. The change in pigmentation may follow common inflammatory disorders. Over time, the uneven pigmentation will resolve spontaneously. Patients and parents were distressed by the appearance of dyschromia. The concern must be taken seriously, and careful explanation and reassurance should be provided[8].

Our study showed good agreement with earlier studies in Sweden and Singapore that psoriasis was common in children[5,7,9]. For most papulosquamous diseases and exfoliative dermatitis, these lesions are either not commonly encountered in general pediatric practice or, although recognized, needed to be referred to a specialist for management.

Although hereditary skin diseases may be considered rare, they were diagnosed in a total of 43 patients or 1.8 per cent of the total diagnoses made. Most severe genodermatoses required institutionalized investigation and management. Acne vulgaris is not common in this study because the peak pre-

valence is in teenagers, 12-17 years old[10-14]. Head lice and nits in children were very rare in the referral skin clinic because it was usually noticed incidentally as part of a routine physical examination and treated by general physicians[11,14].

It is expected that analysis of our pediatric dermatology clinic will provide additional interesting and valuable information. Despite the frequency of skin problems in children, most pediatric training programs allot very little time to organized teaching of dermatology. Accurate recognition and appropriate management of the subset of commonly encountered conditions should be emphasized in teaching dermatology to pediatric, dermatology residents and physicians in practice. The baseline data from this study may be useful to monitor future changes in the pattern of skin diseases in the pediatric age group. Epidemiology of skin diseases affecting children will facilitate the development of planning dermatologic health care program and research for children in Thailand in the future.

ACKNOWLEDGEMENT

This work was supported by the Chalerm Prakiat Fund from the Faculty of Medicine Siriraj Hospital, Mahidol University.

(Received for publication on November 3, 1998)

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