

Skin Diseases in Children in Eastern Turkey*

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Skin diseases in children are important, not only because they may reflect some of the systemic diseases, but also because they are commonly seen in general pediatric practice. According to the reports, about 15-20 per cent of pediatric patients have skin problems.¹⁻⁴ They are even more common immediately after birth.^{4,5}

Reports concerning the incidence of skin diseases in pediatric age groups are rather scarce and there have been no surveys done on this subject in Eastern Turkey.

The purpose of this paper is to report the incidence of skin diseases which we have observed in the children of Eastern Turkey within the last three years.

Material and Method

The charts of 2,800 children, from birth through 13 years of age, seen in the Dermatology Department of the Atatürk University Hospital, Erzurum, Turkey between January 1, 1966 and December 31, 1968, were studied. Of the 2,800 children, 1,160 were males and 1,640 females. All of these patients were seen in the Outpatient Clinic, and when it was considered necessary for exact diagnosis, further studies, such as culture, skin biopsy and evaluation, were done on an outpatient or inpatient basis. As all the patients were first seen in the Outpatient Clinic, we studied the outpatient charts and then, when needed, referred to the inpatient charts, biopsies and culture reports.

As 47 of the 2,800 patients had two unrelated skin diseases at one visit, the total number of the diseases appearing was 2,847.

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Results and Discussion

The incidences of the 2,847 skin diseases we observed are shown according to the order of frequency in Table I.

TABLE I
GROUP CLASSIFICATION OF THE INCIDENCE OF SKIN DISEASES IN
CHILDREN IN 2,847 CASES

Diseases	Male	Female	Total	Per cent
1. Infectious diseases	1004	724	1728	60.69
2. Dermatitis and eczema	370	265	635	22.30
3. Reaction to physical agents	60	37	97	3.40
4. Diseases of blood vessels	52	23	75	2.28
5. Diseases of the hair	31	19	50	1.75
6. Papulo-squamous eruptions	24	23	47	1.65
7. Tumors of the skin	12	12	24	0.84
8. Disturbances in keratinization	13	6	19	0.66
9. Drug eruptions	8	6	14	0.49
10. Diseases of Eccrine Sweat glands	6	6	12	0.45
11. Others	85	61	146	5.12
Total	1,182	1,665	2,847	100.00

As is seen in Table I, the great majority of the patients (60.69%) we observed had infectious diseases of the skin. In this group, fungal, bacterial, viral and parasitary diseases of the skin were included. Among these, the most common one was the fungal infections (Table II).

TABLE II
THE INCIDENCE OF INFECTIOUS DISEASES OF THE SKIN IN 1,728
CHILDREN

Diseases	Male	Female	Total
Fungal infections	559	308	867
Bacterial infections	314	270	548
Viral infections	77	82	159
Parasitary infections	54	64	118
Total	1,004	724	1,728

Most of the patients with fungal infection (93.42%) had tinea capitis, with favus being almost one-third (28.14%) of the total tinea capitis cases (Table III). Excepting favus, tinea capitis was observed to be twice as common in boys than in girls. In a study⁶ previously done in our department which included some of the patients of this survey, it was seen that in 95.7 per cent of the cases of favus, *T. schoenleini* was

TABLE III
TYPES OF FUNGAL INFECTIONS OF THE SKIN OBSERVED
IN 867 CHILDREN

Diseases	Male	Female	Total
Tinea capitis	514	294	810
Favus	134	94	228
Kerion	166	82	248
Other than favus and kerion (non-inflammatory)	214	120	334
Tinea corporis	40	6	46
Tinea pedis	1	1	2
Tinea versicolor	-	3	3
Moniliasis	4	2	6
Total	559	308	867

responsible and in 4.3 per cent *T. violaceum* was found. In the same study, in the kerion cases, *T. verrucosum*, *M. canis*, *T. violaceum* and *T. mentagrophytes* were isolated in 71.5, 16.5, 8 and 4 percent of the cases respectively. And in non-inflammatory tinea capitis, *M. canis*, *T. verrucosum*, *T. violaceum* and *T. mentagrophytes* were found in 51.3, 31.0, 12.1 and 5.4 per cent of the cases respectively. While favus is rarely seen and *M. audouini* is the most common cause of tinea capitis in the United States^{7,8} *T. verrucosum* (other than *T. schoenleini*) was the most common cause of tinea capitis in Eastern Turkey.

Among the infectious diseases of the skin, bacterial infectious diseases were the second most common group with 584 cases. The majority of these cases (458) were pyodermas, being mainly primer pyodermas. Among the primer pyodermas we observed impetigo, folliculitis, ecthyma, multiple abscesses of the infants (periporitis), erysipelas and pemphigus neonatorum in 360, 39, 35, 11, 9, and 4 cases respectively. Systemic bacterial infections, involving the skin, were observed in 42 cases and tuberculosis was the most common one (Table IV). Among the 37 cases of tuberculosis, scrofuloderma was the most common one (27 cases). Lupus vulgaris was observed in three cases and lichen scrofulosorum and/or papulo necrotic tuberculid were observed in seven cases. The incidence of anthrax is more common in our region than is seen in Table IV because most of the patients with anthrax registered with the clinic of infectious disease or were transferred to this clinic from the emergency room or the pediatric clinic.

TABLE IV
SYSTEMIC BACTERIAL INFECTIONS INVOLVING THE SKIN
IN 42 CHILDREN

Diseases	Male	Female	Total
Tuberculosis of the skin	16	21	37
Anthrax	—	2	2
Cutaneous diphtheria	2	—	2
Leprosy	1	—	1
Total	19	23	42

Viral infections of the skin were observed in 159 cases. Among these molluscum contagiosum and warts were the most common, comprising of 72 and 54 cases respectively.

Parasitatory infections of the skin were observed in 118 cases and were equally divided between the two sexes. Papular urticaria was seen in 110 cases, scabies in seven and pediculosis in one case.

The second most common group of skin diseases was combined into the heading of dermatitis and eczema, numbering 635 (22.30 %) of the total 2,847 cases (Table I). The types of diseases seen in this group are shown in Table V. Atopic dermatitis was the most common disease in this group, amounting to 315 out of 635. However, it was only 11.06 per cent of the 2,847 cases. The disease was observed to be twice as common in boys than in girls.

TABLE V
THE TYPES OF 635 CASES OF DERMATITIS AND ECZEMA

Diseases	Male	Female	Total
Atopic dermatitis	201	114	315
Seborrheic dermatitis	100	103	203
Leiner's disease	1	2	3
Contact dermatitis	29	21	50
Lichen simplex chronicus	16	8	24
Nummular eczema	8	7	15
Diaper dermatitis	5	5	10
Acute generalized eczema	5	3	8
Dyshidrosis	2	0	2
Erythroderma	1	0	1
Eczema, unclassified	3	1	4
Total	371	264	635

The second most common disease in this group was seborrheic dermatitis. It is interesting to note that 83 (40.88 %) of the 203 cases of seborrheic dermatitis were infants below one year of age, mainly in the form of cradle cap.

The third most common group were those with reactions due to physical agents. Among those, 77 were thermal burns, 10 keloids due to burns, four polymorphus light eruptions, four xeroderma pigmentosum, and two hydroaestivale.

The fourth most common group of skin diseases concerned blood vessels. In this group, urticaria, erythme multiforme and frost-bites were observed in 61, 21, and 2 cases respectively. Intestinal parasites were seen in almost every case with urticaria. We believe that the cause of urticaria was intestinal parasites in the majority of our cases.

The fifth most common group were diseases of the hair. All of the 50 cases in this group had alopecia areata, excepting one with total alopecia. In all the cases of alopecia areata, diagnoses were established after careful search for fungal infections, such as microscopic examinations and cultures. It was said that alopecia areata is distinctly unusual in early childhood, but more common after six years of age.⁹ Thirteen of the 49 cases we observed were in children between one and six years of age.

The sixth most common group were the papulosquamous eruptions. In this group we observed psoriasis, pityriosis rosea, lichen planus and pityriasis rubra plaris in 33, 10, 3 and 1 of the cases respectively.

The seventh most common group were tumors of the skin. The incidence of these diseases is shown in Table VI.

TABLE VI
TUMORS OF THE SKIN OBSERVED IN 24 CASES

Disease	Male	Female	Total
Hemangioma	2	6	8
Pigmented nevi	2	2	4
Papulloma	1	3	4
Lipoma	2	1	3
Granuloma pyogenicum	1	—	1
Trichoepithelioma	1	—	1
Adenoma sebaceous	1	—	1
Urticaria pigmentosa	1	—	1
Dermatofibrosarcoma protuberans	1	—	1
Total	12	12	24

The eighth most common group were disturbances of keratinization. In this group we observed ichthyosis in 14 cases, keratosis palmaris et plantaris in three cases and calluses and corns, each in one case.

Drug eruptions, the ninth most common group, were observed in 14 cases.

Diseases of the eccrine sweat gland, the tenth group, were observed in 12 cases; 11 cases of miliaria, being mainly miliaria rubra, and one case of hyperhidrosis.

The other diseases we observed were grouped together under the heading of "miscellaneous" diseases. The incidences of these diseases are summarized in Table VII. Among these patients pruritus was observed in 64 cases. The pruritus was either generalized or localized, mainly on the anogenital area, and as in the case of urticaria, the great majority of these children had intestinal parasites. All eight cases of acrodynia were observed during an epidemic in an area which became subject to accidental poisoning with mercury.¹⁰

TABLO VII
MISCELLANEOUS SKIN DISEASES IN 146 CHILDREN

Diseases	Male	Female	Total
Pruritus	39	25	64
Aphthous stomitis	7	4	11
Acrodynia	5	3	8
Hemorrhagic disorders	7	—	7
Angio-edema	3	3	6
Acne	2	4	6
Vitiligo	1	5	6
Epidermolysis bullosa	3	2	5
Erythema nodosum	4	1	5
Serum sickness	3	1	4
Scarlet fever	2	2	4
Pemphigus vulgaris	2	1	3
Discoid lupus erythematosus	2	1	3
Acrodermatitis enteropathica	1	1	2
Dermatitis herpetiformis	—	2	2
Chelitis	1	1	2
Freckles	1	1	2
Perleche	—	1	1
Sturge-Weber Syndrome	—	1	1
Pellegra	—	1	1
Granuloma annulare	1	—	1
Pemphigoid	1	—	1
Dermatomyositis	—	1	1

If, instead of classifying our cases in groups, we consider them as separate entities, the frequency of the common single diseases are as seen in Table VIII. When they are listed as single entities, infectious diseases such as tinea capitis and pyodermas take the first two places in order of frequency, and are almost half of the total cases.

TABLO VIII

SOME OF THE COMMON SKIN DISEASES OBSERVED IN 2847 CASES IN EASTERN TURKEY, SHOWN AS SINGLE ENTITIES

Diseases	Male	Female	Total	Percent
Tinea capitis	514	296	810	28.45
Primer pyodermas	241	217	458	16.09
Atopic dermatitis	201	114	315	11.06
Seborrheic dermatitis	100	103	203	7.13
Papular urticaria	50	60	110	3.86
Thermal burns	46	31	77	2.70
Molluscum contagiosum	36	36	72	2.60
Pruritus	39	25	64	2.24
Urticaria	44	17	61	2.14
Warts	28	26	54	1.89
Contact dermatitis	29	21	50	1.72
Alopecia areata	30	19	49	1.72
Tinea corporis	40	6	46	1.61
Tuberculosis of the skin	16	21	37	1.30
Psoriasis	17	16	33	1.15

According to studies done in North America within the last few decades, infectious diseases of the skin among children seem to be the most common skin diseases.^{11 14} We think that because of the new antibiotics and better socio-economic conditions, infectious diseases of the skin are not as common today as they were before in North America, and obviously less common than in Eastern Turkey. The findings of this study reflect very well the flora of the area mentioned. Our hospital serves not only the patients from Erzurum and its vicinity, but also many patients from other cities of Eastern Turkey. We believe that the poor socio-economic conditions are responsible for the high incidence of infectious diseases of the skin encountered in this part of the country.

Summary

The incidences and types of skin diseases of 2,800 Turkish children seen in a three year period were reported. Fungal and bacterial infections of the skin were found in about half of the cases with tinea capitis

(28.45 per cent) and primer pyodermas (16.09 per cent). One third of tinea capitis cases were favus. The high incidence of infectious diseases of the skin in children in Eastern Turkey was concluded to be due to poor socio-economic situation of this part of Turkey.

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