

DERMATOPHYTOSES IN VISAKHAPATNAM

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Summary

Two hundred clinically diagnosed cases of dermatophytoses were examined and subjected to mycological study. Dermatophytes were found in 127 cases (63.5%) by direct microscopic examination and cultures were positive in 60 cases (30%). The commonest clinical type was found to be *Tinea Corporis* followed by *T. Cruris*, *T. Unguium*, *T. Capitis*, *T. Pedis* and *T. Barbae*. The commonest species encountered was *T. Rubrum* followed by *T. Mentagrophytes*, *Epidermophyton Fioccosum*, *Trichophyton Violaceum* and *Microsporum gypseum*. The infection was found to be mainly prevalent in adult males.

The dermatophytoses constitute a group of superficial fungus infections of keratinized tissues viz., the epidermis, hairs and nails (Von Breuseghem, 1958).

The dermatophytes are classified into three genera by Emmons as *Microsporum*, *Trichophyton* and *Epidermophyton*. Incidence of infections with dermatophyte species varies considerably with geographic location and climatic condition of the place. Review of literature shows that considerable work on dermatophytoses has been done and reported from different parts of our country from time to time. The present work is undertaken with a view to find out the incidence and the mycological aspects of dermatophytoses in this part of the country.

Materials and Methods

The present study is conducted on clinically diagnosed cases in the out-patient Department of Dermatology, King George Hospital, Visakhapatnam.

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The cases are selected and the data regarding the age, sex, nature and duration of the lesions were recorded in the form of a case sheet. Materials in the form of skin scrapings, hair and nail were collected from respective sites of the lesion.

Part of the material thus collected was mounted in 10% K. O. H. solution and examined under the microscope for evidence of fungal elements viz., hyphae and spores. The remaining material was inoculated in the modified Sabouraud's agar slants (Dextrose peptone agar) containing 0.05 mg per c.c. of chloramphenicol. The bottles are incubated at room temperature and examined daily for three weeks. The positive cultures are examined and the species identified by the cultural characteristics and microscopic examination of needle mount and slide culture.

Results

A total of 200 cases clinically diagnosed as dermatophytoses are studied in detail. The results of the clinical and mycological study of these cases are shown below in Tables I, II and III.

TABLE I
Dermatophytes Isolated from various clinical varieties

S. No.	Clinical type	Total No. of cases	K. O. H. Positive		Culture Positive	
			No.	Percentage	No.	Percentage
1.	Tinea Corporis	88	60	68.18	27	30.70
2.	Tinea Cruris	80	55	68.75	25	31.25
3.	Tinea Unguium	9	4	44.44	1	11.10
4.	Tinea Capitis	6	2	33.33	5	83.30
5.	Tinea Pedis	5	2	40.00	—	—
6.	Tinea Barbae	3	1	33.33	—	—
7.	Mixed infection	9	3	33.33	2	22.20
		2000	127	63.5	60	30.0

TABLE II
Incidence of Age and Sex of Different Clinical Types

S. No.	Clinical type	Age group						Sex Ratio		
		0 — 12		12 — 20		Above 20		M	F	Total
		No.	%	No.	%	No.	%			
1.	T. Corporis	10	11.3	29	32.96	49	55.68	68	20	88
2.	T. Cruris	—	—	40	50.00	40	50.00	78	2	80
3.	T. Unguium	1	11.1	2	22.22	6	66.66	6	3	9
4.	T. Capitis	5	83.33	—	—	1	16.66	4	2	6
5.	T. Pedis	—	—	2	40.00	3	60.00	3	2	5
6.	T. Barbae	—	—	1	33.33	2	66.66	3	—	3
7.	Mixed infection	—	—	3	83.33	6	66.66	7	2	9
		16	8.0	77	38.5	107	53.5	169	31	200
								(84.5%)	(15.5%)	

TABLE III
Dermatophyte Species Isolated from Different Clinical Types

S. No.	Species	T. cor-poris	T. cru-ris	T. ungu-ium	T. capi-tis	Mixed	T. Pe-dis	T. bar-bae	Total
1.	Trichophyton Rubrum	21	16	1	1	2	—	—	42
2.	Trichophyton Mentagrophytes	3	5	—	—	—	—	—	8
3.	Trichophyton Violaceum	—	—	—	3	—	—	—	3
4.	Microsporium Gypseum	1	—	—	—	—	—	—	1
5.	Epidermophyton Floccosum	2	4	—	—	—	—	—	6
		27	25	1	5	2	—	—	60

Discussion

In the present study the different clinical types studied are T. Corporis, T. Cruris, T. Unguium, T. Capitis, T. Pedis and T. Barbae with the decreasing order of frequency. T. Corporis is

the predominant clinical type (44%). This is in conformity with the other reports published from other parts of the country. A comparison of present series with other series are shown in the Table - IV below :

TABLE IV

S. No.	Name of the place	T. cor-poris	T. cru-ris	T. pe-dis	T. capi-tis	T. un-guium	T. bar-bae	Mixed	Total
1.	Uttar Pradesh	246	221	97	20	12	24	—	620
2.	Delhi	248	121	61	14	10	—	—	454
3.	Delhi	450	166	109	16	40	—	77	858
4.	Trivandrum	88	—	34	3	6	5	12	148
5.	Ahmedabad	132	86	5	20	7	—	—	250
6.	Warangal	122	48	19	1	7	6	—	203
7.	Hyderabad	86	24	18	13	6	3	8	158
8.	Visakapatnam (Present series)	88	80	5	6	9	3	9	200

Regarding the incidence of age it was observed that the dermatophytoses are most prevalent over the age of 20 years. The incidence in the present series over the 20 years age group is 55.68%. The same high incidence in the age group was observed by Dutta and Ramana Rao² from Hyderabad (70.2%), Vasu³ from Warangal (64%) Kalra et al⁴ from Delhi (29.68%), Kurup and Ananthanarayan⁵ from Trivandrum (86.68%) and Gupta et al⁶ from Lucknow (60.32%). *T. Capitis*, however, was more prevalent in the age group below 12 years. Regarding the incidence of sex it was observed that the infection was more prevalent in males (84.5%) than in females (15.3%). The same high incidence in males than females was observed by Kurup and Ananthanarayan (73.64%)⁵, Kalra et al (74.5%)⁴ and Dutta and Ramana Rao (77.2%)².

The different species isolated in the present series are *Trichophyton Rubrum*, *Trichophyton Mentagrophytes*, *Epidermophyton Floccosum*, *Trichophyton Violaceum* and *Microsporum Gypseum* in the order of decreasing frequency. *Trichophyton Rubrum* was found to be the main aetiological agent responsible in the present series (70%). This is in conformity with other published reports viz., Dutta and Ramana Rao² (65.62%), Vasu³ (62.6%), Kurup and Ananthanarayan⁵ (68.30%), Gokhale (72.38%)⁸, Ghosh⁹ (63%), Kalra et al⁴ (80.61%) and Desai and Bhutt¹⁰ (84.45%). The comparative incidence of the species in various parts of the country are shown in the Table V below:

While *Trichophyton Rubrum* is the main aetiologic agent in all other

TABLE V

Incidence of different dermatophyte species in the different parts of India

S. No.	Place and year	T. Rubrum	T. Mentagrophyte	T. Viola-ceum	E. Floccosum
1.	Bengal (1948)	63.00	2.36	1.41	32.23
2.	Uttar Pradesh (1969)	56.73	31.73	—	1.92
3.	Poona (1959)	72.38	17.16	2.24	2.24
4.	Bombay (1961)	84.45	2.32	8.81	2.32
5.	Trivandrum (1961)	68.30	10.00	1.60	3.30
6.	Delhi (1964)	80.61	9.91	3.52	3.08
7.	Warangal (1966)	62.65	16.86	4.81	12.04
8.	Burle (1967)	78.43	10.78	—	1.96
9.	Ahmedabad (1967)	84.57	1.50	8.50	2.00
10.	Hyderabad (1969)	65.62	9.36	9.36	10.93
11.	Present series Visakhapatnam (1972)	70.00	13.33	5.00	10.00

clinical types, *Trichophyton violaceum* is the main aetiologic agent isolated from *Tinea Capitis*. This is in conformity with other reports published.

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