DERMATOMYCOSES IN AND AROUND JAMNAGAR

V. C. PORIA,* A. SAMUEL,* K. M. ACHARYA † AND S. S. TILAK ‡

Summary

Three hundred clinically diagnosed cases of dermatomycoses attending the skin out patients department, Irwin Group of Hospitals, Jamnagar were studied mycologically. Dermatomycosis were found in 216 cases (72.00 per cent) either by direct smear examination or by culture or by both. The commonest genus isolated was *Trichophyton* (79.7 per cent) followed by *Candida* (13.6 per cent), *Epidermophyton* (4.2 per cent) and *Microsporum* (2.5 per cent). The commonest species isolated was *T. rubrum* followed by *T. mentagrophytes, Candida albicans, T. violaceum, E. floccosum, T. schonleini, T. verrucosum, M. gypseum* and one strain each of *T. tonsurans, T. concentricum, T. megnini* & *T. ferrugineum.* Majority of the cases were adults. The male to female ratio was 4 : 1. Most common clinical variety encountered was tinea cruris in males and tinea corporis in females. The prevalent clinical types in children were tinea capitis and tinea corporis ; in adolscent and adults tinea cruris ; and in older age group tinea corporis. Maximum number of cases were seen in the month of July, while low incidence was recorded during January and February.

Incidence of infection with dermatomycoses varies considerably with the geographic location and climatic conditions of the place. The present study of 300 cases was undertaken with a view to find out the incidence and some other aspects of dermatomycoses, in and around Jamnagar.

* Tutor in Microbiology
M. P. Shah Medical College
Jamnagar.

† Assistant Professor in Dermatology and Venereology

‡ Professor of Pathology and Head of the Department of Microbiology
M.P. Shah Medical College and
Irwin Group of Hospitals, Jamnagar.

Presented at the 5th Annual Conference of Pathologists and Microbiologists of Gujarat held in Jamnagar in November 1979.

Received for publication on 15—10—1979

Material and Method

Scrapings, hair and nails collected from 300 cases were examined microscopically and cultures were put up on Sabouraud's media containing 50 mg chloramphenicol per litre. Cultures were examined upto a period of three weeks. In positive cultures colony characters and pigment production were recorded and microscopic features were studied.

Observation

Out of 300 cases, evidence of mycotic infection was observed in 216 cases (72 per cent), either by smear or by culture or by both. In 103 cases only direct smears were positive, in 88 cases both the smear and culture were positive, while in 25 cases smears were negative but cultures were positive.

TABLE 1

Relation between clinical type of infection with mycological investigations

Sr. No.	Clinical type	Total No. of cases	KOH positive		Culture positive	
			No.	%	No.	%
1.	Tinea cruris	120	85	70.8	54	45.0
2.	Tinea corporis	108	65	60.2	38	35.2
3.	Tinea capitis	16	7	43.7	3	18.7
4.	Tinea pedis	14	4	28.6	3	21.4
5.	Tinea manuum	9	7	77.8	6	66.7
6.	Tinea unguium	13	10	76.9	4	30.8
7.	Tinea barbae	6	2	33.3	—	—
8.	Mixed	14	12	85.7	7	50.0
	Total	300	192		115	

The remaining 84 cases were found to be negative by smear as well as by culture.

Highest positivity rate by smear examination in KOH (77.8 per cent) and culture (66.7 per cent) was observed in tinea manuum (Table 1). Three cases out of 115 showed evidence of mixed infection. The details of genera and of species are shown in tables 2 and 3 respectively.

TABLE 2

Details of genera isolated from dermatomycotic lesions

S. No.	Genera	No. of cases	%
1.	Trichophyton	94	79.7
2.	Candida	16	13.6
3.	Epidermophyton	5	4.2
4.	Microsporum	3	2.5
	Total	118	100.0

Age of the patients ranged from 1 year to 70 years. Among children (0-12 years) tinea capitis and tinea corporis were common (42.3 per cent each). In adolescents (13-20 years) and adults (21-50 years), tinea cruris was dominant. In persons above the age of 51 years, tinea corporis was prevalent (Table 4).

Out of 300 cases, 243 were males (81 per cent) and 57 females (19 per cent). Tinea cruris was seen more frequently in males (46.1 per cent) than females (14 per cent). The commonest variety among females was tinea corporis (64.9 per cent) (Table 4).

Discussion

Trichophyton was the most common genus isolated (79.7 per cent) followed by candida (13.6 per cent), Epidermophyton (4.2 per cent), and Microsporum (2.5 per cent) (Table 2).

The commonest species of the genus Trichophyton obtained in the present study was *T. rubrum* (50.98 per cent) which is similar to earlier reports. In present study *T. mentagrophyte* was the second commonest species isolated which is in accordance with the findings of many other workers[1,3,4].

Ghosh[5] and Prasad and Prakash[6] reported high incidence of *E. floccosum*. In the present study 4.9 per cent of *E. floccosum* was isolated which is consistent with the results of study by Nagabhushnam[2] and Mankodi and Shah[7].

Incidence of mixed infections in dermatomycoses is not very common

TABLE 3

Incidence of dermatophytes isolated from different clinical types

S. No.	Species	Tinea cruris	Tinea corporis	Tinea pedis	Tinea capitis	Tinea barbae	Tinea unguium	Tinea manuum	Mixed infection	Total
1.	Tinea rubrum	33	14	—	—	—	1	2	2	52
2.	Tinea mentagrophytes	6	10	—	1	—	2	1	2	22
3.	Tinea violaceum	—	4	—	1	—	—	2	2	9
4.	Tinea verrucosum	2	1	—	—	—	—	—	—	3
5.	Tinea schonleini	1	1	1	—	—	—	—	1	4
6.	Tinea concentricum	—	1	—	—	—	—	—	—	1
7.	Tinea ferrugineum	—	1	—	—	—	—	—	—	1
8.	Tinea megnini	1	—	—	—	—	—	—	—	1
9.	Tinea tonsurans	—	1	—	—	—	—	—	—	1
10.	E. floccosum	2	2	—	—	—	—	1	—	5
11.	M. gypseum	—	1	—	1	—	—	—	1	3
12.	Candida albicans	9	3	2	—	—	1	1	—	16
									Total	118

TABLE 4

Incidence of age and sex in different clinical types

S. No.	Clinical type	Age group								Sex rate		Total
		0—12		13—20		21—50		51 and above				
		No.	%	No.	%	No.	%	No.	%	Male	Female	
1.	Tinea cruris	1	3.85	25	43.10	89	45.41	5	25	112	8	120
2.	Tinea corporis	11	42.30	22	37.93	64	32.65	11	55	71	37	108
3.	Tinea pedis	—	—	3	5.17	11	5.61	—	—	12	2	14
4.	Tinea capitis	11	42.30	4	6.90	1	0.51	—	—	13	3	16
5.	Tinea manuum	1	3.85	2	3.45	6	3 06	—	—	7	2	9
6.	Tlnea unguium	1	3.85	—	—	10	5.10	2	10	12	1	13
7.	Tinea barbae	—	—	—	—	5	2.55	1	5	6	—	6
8.	Tinea mixed	1	3.85	2	3.45	10	5.10	1	5	10	4	14
	Total	26		58		196		20		243	57	300
	Percentage	8.7		19.3		65.3		6.7		81	19	

as reported by other workers[8,9,10]. In the present study three such instances were recorded in 115 cases. *T. rubrum* and *T. concentricum* were isolated in one case, *T. mentagrophytes* in combination with *T. Violaceum* and *E. floccosum* respectively were isolated in two other cases.

Males (81 per cent) were more commonly affected than females (19 per cent) (Table 4) giving a male to female ratio of 4:1. Similar observations were made by Nath and Agarwal[1], Shah and Amin[11], and Mehrotra and Bajaj[8].

Nath and Agarwal[1] reported the commonest clinical types as tinea capitis in children, tinea corporis and tinea cruris in adolescents and adults, and tinea cruris in old age. The present study is in accordance with the above mentioned reports except that of an equal percentage of tinea capitis and tinea corporis noted in children.

The present study shows maximum number of cases in the month of July. Similar findings were noted by Kandhari and Sethi[12], and Desai and Bhatt[13].

References

1. Nath P, Agarwal PK : Some observations of Mycotic infection in Lucknow, Indian J Med Res 1971; 59:675-682.
2. Nagabhushnam PD, Thirmularao D, and Patnaik R : Dermatomycoses in Hyderabad, Indian J Derm Vener, 1969; 34 : 120-123.
3. Gupta RN, Shome SK : Dermatomycosis in Uttar Pradesh. An analysis of 620 cases J Indian Med Res, 1959; 33 : 39-42.
4. Vasu DRBH : Studies in Medical Mycology – Part I : Incidence of dermatomycosis in Warangal AP (India), Ind J Med Res 1966; 54 : 466-473.
5. Ghosh LM : Analysis of 50,000 cases as seen in Out Patient Department of Tropical School of Medicine, Calcutta during 5 years 1942-46, Indian Med Gaz, 1948; 83 : 493-500.
6. Prasad VB, Prakash APS : Dermatophytic profile of Chotanagpur Indian J Dermatol Venereol Lepr 1979; 45:103-110.
7. Mankodi HC, Shah BH : A study of 110 cases of Superficial mycological infections, Indian J Derm and Vener, 1967; 33 : 177-180.
8. Mehrotra HK, Bajaj AK and Gupta SC : A study of Dermatophytes at Allahabad, Indian J Pathol Microbiol 1978; 21 : 131-139.
9. Sharma SC, Talwar P Kumar B et al: Tinea cruris in Chandigarh Indian J Dermato Venerol Lepr 1980; 46 : 216-217.
10. Sobhanadri C, Rao DT and Babu KS : Clinical & Mycological study of Superficial fungal infections at Govt. General Hospital, Guntur & their response to treatment with hamycin dermostatin & dermamycin Indian J Derm Ven 1970; 36 : 209-214.
11. Shah HS, Amin AG, Kanvinde MS, et al : Analysis of 2000 cases of dermatomycosis. Indian J Path Bact, 1975 ; 18 : 32-37.
12. Kandhari KC, Sethi KK : Dermatophytosis in Delhi area, J Indian Med Assoc 1964; 42 : 324-326.
13. Desai SC, Bhatt MLA : Dermatomycosis in Bombay, Indian J Med Res 1961; 49 : 662-671.