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ORIGINAL ARTICLES

TINEA CAPITIS

A study of 102 Cases from 1st July, 1958 to 30th June, 1961 At Sassoon Hospitals, Poona, India.

By

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Ringworm of the scalp is not an uncommon entity in our department. There seems to be a wide variation in its incidence in the various parts of the country; so also a wide variety of organism are cited as causative agents. Could this be due to wide variations in the climate, geographical and living conditions of the sub-continent?

Among the dermatophytes inciting tinea capitis, *Trichophyton violaceum* dominates all over the country and has been reported by many workers from time to time. Dey (1959) observed dominance of *M. audouini* among the children of European or Anglo Indian schools from hill stations, while *T. violaceum* was predominant among Indian children at Calcutta. Ghosh (1948) reviewing statistical analysis of 50,000 skin diseases during 1942-1948 in Calcutta has also arrived at similar conclusions. Dominance of *T. violaceum* in Delhi was pointed out by Behl and Sharma (1949); in Bombay by Desai et. al (1959, 1961); in Poona by Gokhale et. al (1961).

Other pathogens that have been recorded to be fairly common are *T. Schoenleini* in Kashmir, North Punjab and Rajastan have also been occassionally reported to cause tinea capitis.

MATERIAL AND METHODS

Material :—This study was undertaken in July, 1958 and a total of 102 cases of ringworm of the scalp were studied in 3 years time during routine examination in out patient department. Table I lists the monthwise incidence.

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TABLE No. 1.

Incidence of tinea capitis from 1st July 1958 to 30th June, 1961.

Month	1958	1959	1960	1961
January	—	—	—	—
February	—	1	—	2
March	—	4	34 (28* + 6)	1
April	—	2	5	1
May	—	5	4	5
June	—	3	3	4
July	4	5	3	—
August	3	5	—	—
September	—	—	1	—
October	2	2	3	—
November	—	—	—	—
December	—	—	—	—
Total	9	27	53	13

Total — 102

(* 28 cases were from Remand Home for Boys Poona).

Males predominated in the group studied. The number of males was one hundred, while there were only two females. In the male group the age in 98 cases ranged from 5–15 years, and in only 2 cases the infection was noticed in adults, their age being 21 and 30 years respectively.

Thirty-eight cases out of a total of 102 cases, were from surrounding rural and urban areas, while 64 cases were from Poona City. Out of these 64 cases, 28 cases came from Remand Home for Boys. Lesions in the majority of cases were found to be restricted to the scalp only (in 100 cases). In 2 cases lesions of the glabrous skin also were observed. In one case the causative organism was *T. sulfureum* causing Tinea barbae, in other case the lesions were located on the neck which yielded *T. mentagrophyte* var *nidulare*.

Methods:—In every case the causative organism was identified by microscopic examination of the infected hair in KoH preparation and by artificial culture on Sabouraud's glucose agar (containing Cyclocheximide and penicillin streptomycin combination).

Clinical Observations:—On the basis of the clinical picture the cases were divided into 6 groups:

1) Scaly crusted superficial patches.

2) Black dot appearance.

3) Pustular Inflammatory lesions.

4) Kerion.

5) Partial Alopecia.

6) Seborrheic type of tinea favosa.

Table 2 gives the classifications of cases according to clinical picture.

TABLE No. 2.

Clinical classification of 102 cases.

Srl. No.	Clinical types	No. of cases
1.	Scaly crusted superficial patches.	48
2.	Black dot appearance.	18
3.	Pustular inflammatory lesions.	14
4.	Kerion.	12
5.	Partial Alopecia.	6
6.	Seboraheic type of Tinea favosa.	4
		Total 102

1. *Scaly crusted superficial patches*:—This clinical type was most common and was observed in 48 cases. The scales were greyish white adherent to hair at the level of the scalp. The affected areas manifested as patches with irregular counter over the scalp. Hair from these patches were relatively sparse, dry and were easily epilated.

2. *Black dot appearance*:—This clinical type typical of *T. violaceum* was observed in 18 cases. Infected thinned out hair broken at the surface or little above the scalp near the mouth of hair follicle left stumps of broken hair behind and thus giving the typical 'black dot' appearance. Itching of the scalp was noticed in these cases.

3. *Pustular inflammatory lesions*:—Active inflammation and pustule formation in the follicles was noticed in 14 cases. The secondary bacterial infection in some of these cases was also seen.

4. *Kerion*:—Kerion was observed in 12 cases. The organism isolated in this group were *T. violaceum* in 4 cases. *T. tonsurems* var. sulfureum in 3 cases. *M. canis* in 4 cases, M. gypseum in one case.

5. *Partial Alopecia*:—Small patches of alopecia varying from 2–3 cms. in diameter were noted in 6 cases. In 4 out of 6 cases scaly crusted lesions accompanying the bald areas were noticed. In 2 cases only partial alopecia was the visible clinical symptom.

6. *Seborrheic type of tinea favosa*:—This clinical type was observed in 4 cases. Mousy odour with pustular inflammation along with seborrheic type of scaling all over the scalp was the clinical picture noticed in these cases. The causative pathogen was *T. schoenleini.*

Seasonal Variation:—It was noted that incidence of the scalp infections was higher, during February to August, Majority of the patients reported during this period (Table I). There was a decline in the number of cases after August. During winter (November to January) no case was however, noticed.

Personal habits, Economical status and population Density: The majority of cases in this group were found to belong to a low income group.* Lack of personal hygiene and cleanliness; malnutrition and avitaminosis was mainly observed in children of age group 5–15 years. Out of 64 cases from Poona City proper, 28 cases were from Remand Home for Boys. Remaining 36 cases were from the Central part of the city or from slum areas. Overcrowding of population in these areas could be one of the contributory factors of a high incidence of the disease in these parts. However, as many as 36 cases came from rural areas.

Mycological Observation: The artificial cultures revealed that *T. violaceum* was the most predominant pathogen. *T. tonsurans* car *sulfureum* was second commonly noted organism. The other demmatophytes that were observed were *M. canis, M. gypseum, T. sehonnleini, T. mentagrophytes* var *nidularie, M. audouini.* Table 3 gives the classification of cases according to causative organisms.

TABLE 3.

Classification of Cases according causative organisms.

Causative organism		Number of cases
Trichophyton violaceum	...	70
Trichophyton tonsurans var sulfureum	...	20
Trichophyton Schoenleine	...	4
Trichophyton mentagrophytes var nidularie	...	1
Microsporum canis	...	4
M. gypseum	...	1
	Total	102

M. Audouini was isolated from two parsi brothers, both having scaly crus ed patches on the scalp. Their history revealed that elder brother who came from Persia was infected there The younger one was infected after a few days.

* Our institution is a free Government Hospital and though patients from all classes attend out Out-Patients department, the majority belong to Low income group.

DISCUSSION

From our studies of last 3 years, it is realised that tinea capitis is fairly common in poona with its surrounding urban areas; and that *T. violaceum* is a predominant pathogen. Second common pathogen was *T. tonsurans* var *sulfureum*. It is, therefore, felt that a detailed study on a larger scale especially of the schools and hostels for children of age group 5–15 years, may reveal more information about the status of these infections in this part of the country.

1. A total of 102 cases of ringworm of the scalp in Poona were studied during 1st July, 1958 to 30tn June, 1961.
2. The infection was predominant in males belonging to age group 5–15 years.
3. *T. violaceum* was the most common pathogen.
4. *T. tonsurans* var *sulfureum* was next commonly noted dermatophyte.
5. Majority of patients exhibited signs of malnutrition.
6. The infection was found to be more common during February to August.

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