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Original Research Article

Clinical profile of patients with tinea versicolor

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ABSTRACT

Background: Pityriasis versicolor is a superficial fungal infection caused by the polymorphous endogenous yeast *Malassezia furfur*. Infection typically occurs on the trunk and proximal upper extremities and is characterized by distinctive scaly, coalescent hyperpigmented and/or hypopigmented to erythematous patches. Tinea versicolor is a superficial chronically recurring fungal infection of the stratum corneum, characterized by scaly, hypo and hyperpigmented irregular macules, usually located on the trunk and proximal extremities caused by pityrosporum orbiculare.
Methods: 100 patients of untreated tinea versicolor who attended the outpatient department were selected at random irrespective of their age, socioeconomic status, occupation. A detailed history was taken, regarding the age, sex, religion, occupation, socioeconomic status, residence, duration and course of the disease, site of distribution of lesion and any other associated cutaneous and systemic diseases.
Results: The majority patients i.e. 27 (27%) were students and followed by the unskilled workers who comprised 20% of patients. The incidence is quite low in business and official class 3% and 11% respectively.
Conclusions: The duration of the disease in 93% of patients was less than 10 years and in 7% the duration was more than 10 years.

Keywords: Pityriasis versicolor, Tinea versicolor, *Malassezia furfur*

INTRODUCTION

Pityriasis versicolor is a fungal infection of the skin characterized by, white, brown or fawn colored, superficial lesions. The lesions are usually non inflammatory, covered with thin branny or furfuraceus scales and usually sharply marginated. Pityriasis versicolor caused by the lipophylic yeast *Malassezia furfur*, is a mild chronic infection of the stratum corneum; which as the name indicates, causes a patchy discoloration of the skin.[1]

Pityriasis versicolor is a chronic, mild usually asymptomatic infection of the stratum corneum. The lesions are characterized by a branny or furfuraceus consistency; they are discrete or depigmented areas of the skin. The affected areas are principally on the chest, abdomen, upper limbs and back. The etiologic agent is the lipophylic yeast *Malassezia furfur*, a part of the normal flora of the skin.[2]

Pityriasis versicolor is a superficial fungal infection caused by the polymorphous endogenous yeast *Malassezia furfur*. Infection typically occurs on the trunk and proximal upper extremities and is characterized by distinctive scaly, coalescent hyperpigmented and/or hypopigmented to erythematous patches. Tinea versicolor is a superficial chronically recurring fungal infection of

the stratum corneum, characterized by scaly, hypo and hyperpigmented irregular macules, usually located on the trunk and proximal extremities caused by *Pityrosporum orbiculare*.[3]

Tinea versicolor (Pityriasis versicolor) a superficial fungal infection of the skin due to lipophylic yeast *Malassezia furfur* and is one of the most common problems seen in everyday dermatologic practice. The disease is mild and usually asymptomatic, however some patients complain of mild itching especially in summer season.

Both the sexes are affected by this infection but is more common in male. The disease is of worldwide distribution and seen in all races. It is quite common in temperate climate and very prevalent in the tropics and subtropics. Majority of these patients are mainly worried about the cosmetic aspect of this disorder, rather than any physical discomfort and hence seek medical advice. Few patients attending the hospital for some other skin disorders are incidentally found to have associated tinea versicolor by the examining dermatologist, which these patients never complain of, as they feel it is insignificant to mention about.[4]

The clinico-morphological pattern varies from one patient to another and the different clinical patterns may be seen in the same patient. This varied clinico-morphological types and different attitudes of these patients towards this disease was the basis for undertaking this study. In addition it has been tried to relate the effect of age, sex, climate and other predisposing factors in the pathogenesis and course of this disorder.

METHODS

The study material consisted of 100 patients of tinea versicolor, attending the department of Skin and S.T.D at Kalaburgi, Karnataka from January 2016 to January 2017 for a period of one year.

100 patients of untreated tinea versicolor who attended the outpatient department were selected at random irrespective of their age, socioeconomic status, occupation. A detailed history was taken, regarding the age, sex, religion, occupation, socioeconomic status, residence, duration and course of the disease, site of distribution of lesion and any other associated cutaneous and systemic diseases.

A detailed general physical examination was conducted in all the patients and also the systemic examination were done routinely.

Thorough cutaneous system examination was made in bright natural day light to study the precise distribution and morphology of lesions and also looked for associated conditions. And the cases which were clinically, provisionally diagnosed as tinea versicolor, were investigated as follows.

Routine investigations like haemoglobin precentage estimation, total and differential leucocyte count, ESR, blood sugar both fasting and post prandial, urine examination for albumin, sugar and microscopy, stool for ova or cyst of intestinal parasite.

Special investigations like direct examination of the scraped material from the entire 100 patients were mounted on a slide with 10 percent KOEE and examined for *Malassezia furfur* in the department and also repeat examinations were done at the department of microbiology

Inclusion criteria

Inclusion criteria were patients attending skin department during the study period and patients with tinea versicolor.

Exclusion criteria

Exclusion criteria were seriously ill patients, patients with other skin conditions and not willing to participate in the study.

Statistical analysis

Data collected from the study were entered in MS excel. Mean, median and proportion were calculated.

RESULTS

In this study, the youngest patient was of 7 years of age and the oldest patient was of 78 years of age. The majority of cases seen in the age group of 21 to 30 years, were totaling to 47 (47%). Followed by 28 cases (28%) in the age group 11 to 20 years. 17 (17%) cases in the age group of 31 to 40 years. 2 (2%) cases each in the age group of 4l to 50 years and 3 (3%) cases in the age group of 51-60 years. One (1%) case in each group of 0 to 10 years, 61 to 70 years and 71 to 80 years.

Table 1: Showing age and sex incidence.

Age group (yrs)	Sex		No. of cases	%
	Male	Female		
0-10	1	-	1	1
11-20	21	7	28	28
21-30	38	9	47	47
31-40	12	5	17	17
41-50	2	-	2	2
51-60	3	-	3	3
61-70	1	-	1	1
71-80	1	-	1	1
Total	79	21	100	100

In the present study, males were found to be affected much more frequently than females. Out of 100 cases 79 (79%) were males and 21 (21%) were females. The male to female ratio is 4:1

Table 2: Showing the different religions.

Religion	No. of cases	%
Hindu	77	77
Muslim	18	18
Christian	5	5
Total	100	100

Table 3: Showing the different occupation of patients.

Occupation	No. of cases	%
Student	27	27
Unskilled worker	20	20
House wife	15	15
Agriculturist	12	12
Skilled worker	12	12
Officials	11	11
Business people	3	3
Total	100	100

The above table shows the different types of occupation of patients. The majority patients i.e. 27 (27%) were students and followed by the unskilled workers who comprised 20% of patients. The incidence is quite low in business and official class 3% and 11% respectively.

Table 4: Showing the socio-economic status.

Socio economic status	No. of cases	%
Upper	2	2
Upper middle	14	14
Lower middle	26	26
Upper lower	34	34
Lower	24	24
Total	100	100

The above table reveals the majority of the patients belong to the lower status comprising 58% of patients. The upper middle class and lower middle class constitute 14% and 26% respectively. Only 2% reported in upper class

Table 5: Showing the residence of patient.

Residence	Male	Female	Total	%
Urban	49	18	67	67
Rural	30	3	33	33
Total	79	21	100	100

Out of the total 100 patients 67 (67%) belonged to the urban population and 33 (33%) patients were from rural areas.

The above table shows, in 54 (54%) cases the course of the disease is increasing and it is stationary in 35 (35%) cases, where as in 11 (11%) cases there is a period of remission and exacerbation.

Table 6: Showing the duration and course of the disease.

Duration (years)	No. of cases	Stationary	Increasing	Decreasing	Recurrence
<1	37	9	22	-	6
1-5	44	13	28	-	3
5–10	12	8	3	-	1
>10	7	5	1	-	1
Total	100	35	54	-	11

As per the patient's history, the lesion started in the month of summer in 37 cases 2 cases each in winter and rainy season. 59 patients were not aware of the onset of the disease during particular season.

In 85 (85%) cases, there were no family history but in 15 (15%) cases there is a positive family history, which includes 3 conjugal cases.

DISCUSSION

The total number of skin out patients treated during the period was 19077; of which 2142 (11.22%) were superficial mycoses.

This finding is similar to that of Nagabhushanam et al and Kaur whose figures were 8.4% and 14.5% respectively.[5,6]

Out of 2142 cases of superficial mycoses, tinea versicolor was seen in 480 (22.4%) cases. This finding is in accordance with Nagabhushanam et al (17.7%) and Singh (14.1%).[5,7]

However a study carried out by Kaur at Chandigarh showed, the incidence of tinea versicolor as high as (37.5%) among superficial fungal infection.[6] The high incidence in Chandigarh is probably related to the high atmospheric temperature. In contrast, in study carried out by Khandari and Seth, the incidence reported was as low as (3%). The maximum incidence of tinea versicolor was

seen in the age group of 21-30 years (47%), followed by 11 to 20 years (28%), which together accounts for 75% of total cases.

Incidence of tinea versicolor was lower within 10 years (1%) and also after 60 years (1%). This correlates well with the findings of the Pankajalaxmi, who observed highest number of cases in the age group of ii – 30 years, 150 out of 172 (80.7%) and Khalique out of 58 (90.1%).[8,9]

The highest incidence of tinea versicolor in this age group may be attributed to the maximum physical activity seen in these people which leads to excessive sweating.

In this study, the infection is more common in males than females. Sex ratio male to female was 3.76: I. It matches well with the incidence reported by Nagabhushanam et al, Kaur who observed the sex ratio of 3.2: 1; 2.73:1 and 3:1 respectively.[5,6]

However the incidence of tinea versicolar infection, in males was quite higher than females as reported by Damle who observed male: female ratio of 12:1.[4]

The higher incidence in men could probably be due to more sweating especially in those who have prolonged and more vigorous outdoor activities.

The low incidence in females may be due to failure of these females seeking treatment because of shy nature since lesions are many times confined to covered parts of the body.

In this study, students (27%) and unskilled workers (20%) constituted majority of the patients. The disease was less commonly seen in business people (3%).

The higher incidence in students may be due to the age factor and in unskilled worker could be due to their vigorous physical activities.

The low incidence in business class could probably be due to their sedentary work and proper hygiene.

67% of the cases studied belong to the urban areas and 33% cases from rural areas. The higher incidence in urban people was mainly due to the location of the hospital in the city. As the health facilities are also available in rural areas, the attendence of the patients from these areas to this hospital was reduced, probably this could be the reason for the low incidence from rural areas. Another factor could be that the rural population is not bothered about the cosmetic aspect of this disease.

The duration usually runs a chronic course. 44% of the patients had the disease varying from 1-5 years duration. In 37% of the patient the duration was less than 1 year. In 35% of the cases, the disease was stationary, in 54% it was increasing and in 11% cases there was a period of remission and exacerbation.

37% patients gave history of appearance of lesions in summer which goes to prove that the highest incidence of tinea versicolor like other dermatophytoses, is seen in these seasons probably due to excessive sweating. 2% patients each gave history of development of lesions in rainy and winter season. 59 patients (59%) were uncertain to the presence of onset of rashes.

Roberts at Cambridge U.K. in similar study observed, many subject were uncertain as to the precise time of onset of their rash. Among 45 subjects, 40 developed the rash in the months May to September and 5 in the colder period of the year.[10]

Most of the people give least importance to the cosmetic aspect of the skin and also the disease being mild in nature and usually asymptomatic, patients ignore this condition and cannot remember the exact onset of the disease. Probably this could be the possible reason that majority of the patients in the study were not exactly remembering the onset of the disease.

In 15 (15%) cases studied, there was a positive family history, which is in accordance with the study of Burke who has reported 17% of patients with positive family history however Robert has reported very low incidence. It correlates with the study of Robert who found 3 conjugal cases among 41 married persons (7.5%). The conjugal cases occurred could be due to apparent direct cross infection.

CONCLUSION

The highest number of patients were seen between 11 to 40 years (92%) of age and the youngest was 7 years and oldest was 78 years. Majority of the patients belong to low socio economic status and from urban areas.

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