

Original Research Article

A study of 200 cases of pityriasis versicolor: the distribution of age, gender, blood group, lesion morphology, hemoglobin levels, cholesterol levels and diabetic status

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Received: 10 November 2016

Revised: 24 November 2016

Accepted: 30 November 2016

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ABSTRACT

Background: Pityriasis versicolor is a *Malassezia*-associated opportunistic skin infection prevalent in tropical and sub-tropical regions like India. This study describes the distribution of age, gender, blood group, lesion morphology, hemoglobin levels, cholesterol levels and diabetic status in pityriasis versicolor subjects.

Methods: 200 subjects confirmed to have pityriasis versicolor by KOH mounts were assessed and the results tabulated.

Results: Subjects in the 2nd and 3rd decade of life were most commonly infected with cases also showing a female preponderance. Most subjects with pityriasis versicolor were found to be Rh positive. Achromic lesions were most common, and anaemia was common among the pityriasis versicolor positive subjects. Diabetes and hypercholesterolemia weren't particularly common in subjects with pityriasis versicolor.

Conclusions: The study elucidates the behaviour of tinea versicolor in a clinical setting by describing its basic demographic data, clinical presentation, and association with some common co-morbidities relevant to an Indian clinical setting.

Keywords: Epidemiology, KOH test, Pityriasis versicolor, Diabetes, Cholesterol

INTRODUCTION

Pityriasis versicolor is the most important and most common *Malassezia*-associated superficial skin infection.¹ It is particularly prevalent in tropical and sub-tropical regions like India. It is an opportunistic pathogen which infects skin when its commensal round yeast form transforms to the pathologic mycelial form. This transformation occurs due to a shift in the relationship between the human skin and resident yeast flora.²

In lesional skin the most common species are *M. globosa*, *M. restricta*, *M. furfur* and *M. sympodialis*.^{3,4} A study has

found it to be the second most common superficial fungal infection with 25.2% of the 9335 subject with superficial fungal infections presenting with pityriasis versicolor.⁵ Of the total cases of pityriasis versicolor 31% were seen to involve the pediatric age group of children below 14 years of age.⁶ However no clear data on the prevalence, incidence and its burden worldwide is available.

The study describes the distribution of age, gender, blood group, lesion morphology, hemoglobin levels, cholesterol levels and diabetic status across 200 cases of pityriasis versicolor.

METHODS

The study was carried in the Dermatology OPD of Meenakshi Medical College, Kanchipuram over duration of 6 months.

Subjects clinically ascertained to have pityriasis versicolor were enrolled to the study following written and oral consent. KOH mount preparation of lesion scrapings was done and the first 200 subjects confirmed to have pityriasis versicolor were included in the study. Subjects not confirmed by KOH mounts were excluded from the study.

Demographic data was collected, blood analysis including grouping & typing, Hb levels, Serum cholesterol levels, fasting and post-prandial blood sugars were done. A thorough clinical assessment of the case was carried out.

This is a descriptive observational cross sectional study, and the prevalence and frequencies of the analyzed parameters were calculated.

RESULTS

Among the 200 subjects included in the study, the distribution of pityriasis versicolor among subjects of different ages, genders, blood group, lesion morphology, hemoglobin levels, cholesterol levels and diabetic status was analyzed and the results are as listed below.

Age

Pityriasis versicolor was most frequent among subjects in the 2nd and 3rd decades of life, with considerable frequency amongst those in the 4th and 5th decades of life as well as shown in Figure 1.

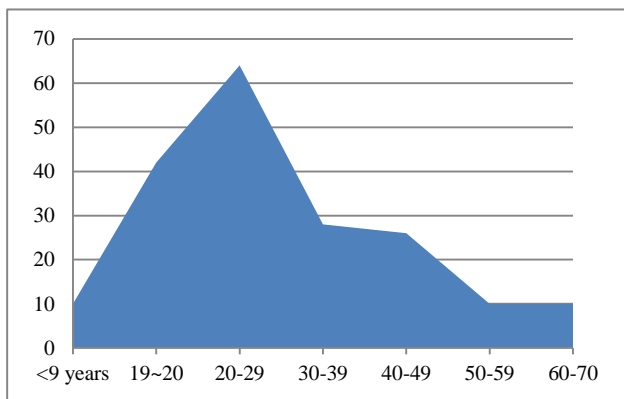


Figure 1: Distribution of subjects according to age.

Gender

Female subjects were found to present more often with pityriasis versicolor in this study as in Figure 2.

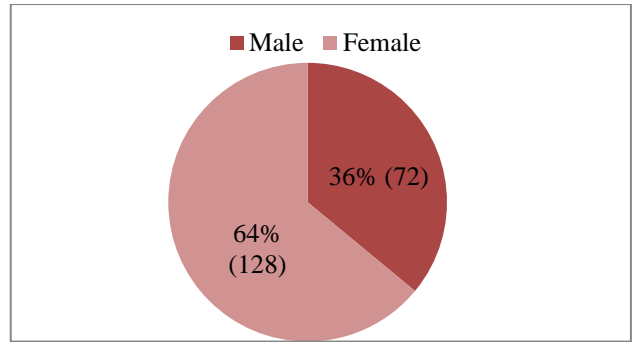


Figure 2: Male vs. female subjects.

Blood group

Most cases of pityriasis versicolor were found to be Rh+, particularly O+ blood group was most common as given in Figure 3 and 4.

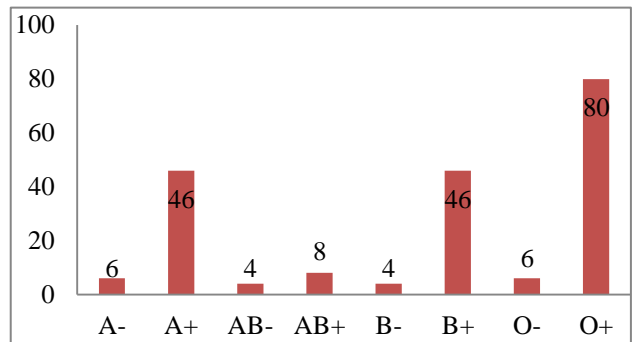


Figure 3: Distribution of pityriasis versicolor subjects according to blood group.

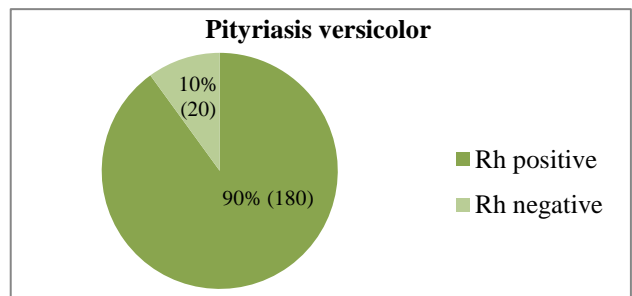


Figure 4: Rh positive vs. Rh negative subjects.

Lesion morphology

The most frequently seen presentation of pityriasis versicolor was achromic pityriasis versicolor as in Figure 5.

Hemoglobin

Though not predominant, a significant portion of the subjects with pityriasis versicolor were found to be anemic as presented in Figure 6.

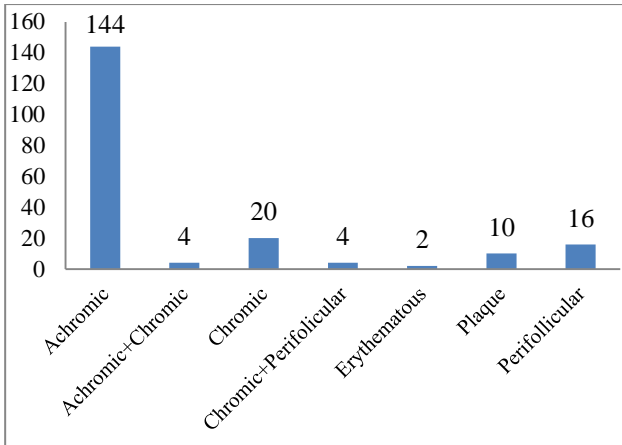


Figure 5: Distribution of subjects according to lesion morphology.

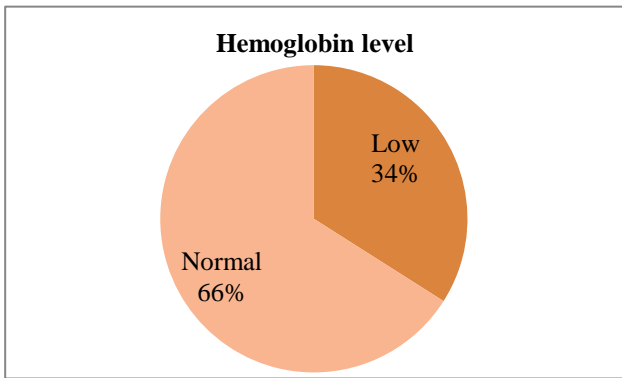


Figure 6: Anaemic vs. non-anaemic subjects.

Diabetic status

Figure 7 elucidates only a small portion of the pityriasis versicolor subjects were found to be diabetic.

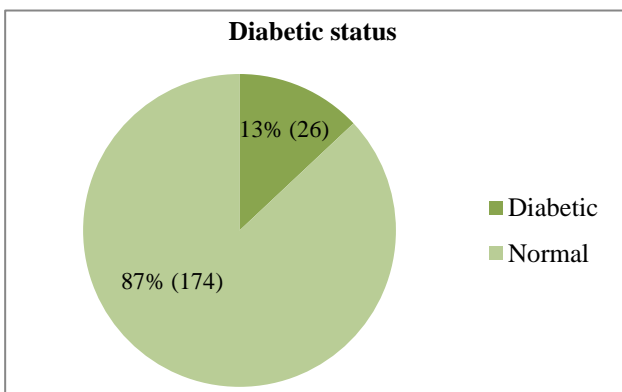


Figure 7: Diabetic vs. euglycemic subjects.

Cholesterol

Only a small portion of the pityriasis versicolor subjects were found to be hypercholesterolemic as given in Figure 8.

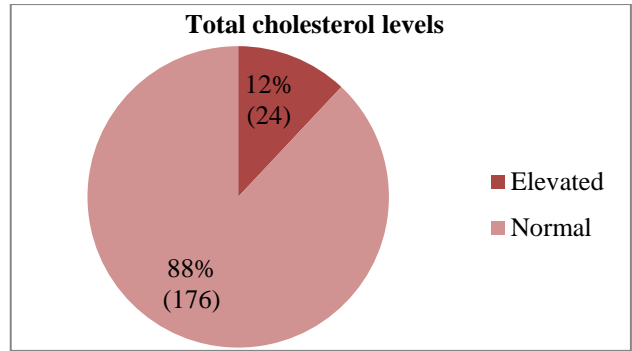


Figure 7: Hypercholesterolemic vs. normocholesterolemic subjects.

DISCUSSION

Age

The majority of the pityriasis versicolor subjects were in the 2nd and 3rd decade of life. Other studies have shown similar findings.⁷⁻⁹ This can be attributed to the high level of physical activity, increased sebaceous activity in this age group. The proliferation of the lipophilic Malessezia yeasts is encouraged in this environment.

Gender

A female preponderance is seen among pityriasis versicolor subjects in our studies. There are contradictory reports amongst other studies in this factor. Some studies have shown no gender predisposition.¹⁰ While others have shown a predisposition among women similar to our study.¹¹ It is possible that the disease is more readily reported by women than men, though some have suggested that the use of oily cosmetic products might have a role to play in the development of the disease.¹¹

Blood group

Among our study group Rh positive subjects were significantly more common in the subjects with pityriasis versicolor. However more thorough studies are advisable before a causal association can be established. Currently we were unable to identify other studies that have assessed this parameter.

Lesion morphology

Our study confirmed the findings of previous studies that reported a significantly greater number of subjects presenting with the typical achromic clinical picture of pityriasis versicolor commonly reported.^{8, 12}

Hemoglobin levels

A significant portion of the pityriasis versicolor subjects were found to be anaemic. The poor nutritional status of the subjects could play a role.

Diabetes

In our study group of pityriasis versicolor subjects diabetes was not particularly prevalent. This is contradictory to research indicating that diabetes is a predisposing factor for pityriasis versicolor.¹³

Cholesterol

Only a small portion of the pityriasis versicolor subjects were hypercholesterolemic.

CONCLUSION

Though not a cause or severe morbidity of mortality, pityriasis versicolor is common cutaneous mycosis. This study analyzes its behavior in a clinical setting by describing its basic demographic data, clinical presentation, and association with some common comorbidities relevant to an Indian outpatient setting.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Meera G, Thilak S, Joshua J. A study of 200 cases of pityriasis versicolor: the distribution of age, gender, blood group, lesion morphology, hemoglobin levels, cholesterol levels and diabetic status. Int J Res Dermatol 2017;3:20-3.