

EPIDEMIOCLINICAL AND MYCOLOGICAL PATTERNS OF PITYRIASIS VERSICOLOR IN THE URBAN AREA

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ABSTRACT

Background/Aims: Pityriasis versicolor (PV) is a cutaneous pigmentation caused by *Malassezia* sp. yeasts. The objective of this study is to describe the clinical, epidemiological and mycological patterns of PV in children's hospital in Rabat. **Materials and methods:** 1087 subjects confirmed to have pityriasis versicolor. Skin scrapings were processed by direct microscopy and isolates were identified by phenotypic characteristics. The total duration of study period was 4 years. **Results:** In the present study, of the 2707 suspected patients with PV, 1087 (40.15%) were positive. The most affected age group was between 16 and 30 years with female preponderance. There was no significant seasonal variation of the patients with PV. Direct microscopy showed typical yeasts cells and hyphae for PV. **Conclusions:** the results showed a higher prevalence of PV among patients at puberty and it was more common in females.

Keywords: Epidemiology; Diagnosis, *Malassezia*, Pityriasis.

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INTRODUCTION

Pityriasis versicolor (PV) is a cutaneous pigmentation disorder caused by lipophilic yeasts of the genus *Malassezia* sp. This was first described by Eichstedt as the causative agent of PV (1, 2).

Pityriasis versicolor or tinea versicolor is a superficial fungal infection of the stratum corneum, characterized by the appearance of macules and scaled plaques (3).

It is an opportunistic pathogen which converts from saprophytic to parasitic form under appropriate conditions. It is particularly prevalent in tropical and subtropical regions (4).

The most common species isolated in skin lesion are *M. furfur*, *M. restricta*, *M. globosa* and *M. sympodialis*. Wood's lamp examination usually showed yellowish fluorescence of the involved skin. PV can coexist with various diseases such as diabetes, immunosuppressive disorders and malnutrition.

The objective of this study is to find out clinical, mycological and epidemiological patterns of PV.

MATERIALS AND METHODS.

This study was carried out in mycology laboratory of children's hospital in Rabat for four years. 1087 diagnosed cases of all ages and genders in hospitalized patients at university medical center (pediatric medicine department and dermatology outpatients department) with dyschromic macules were included in the clinic-mycological study. Exclusion criteria were the following: patients with extensive desquamation, inflammation wounds and abscesses associated with skin lesions.

Direct microscopy was done using acetic acid fixation and staining with methylene blue mounts of lesions scrapings was performed. A scotch tape from the sites showing fluorescence under wood's lamp was done. Isolation species from scraping using a Sabouraud's dextrose medium and olive oil incubated at 37°C (it is not recommended for diagnosis). A phenotypic characterization was done by studying colony characteristics, microscopic morphology and growth at 37°C.

This is a retrospective study; the prevalence and frequency of the parameters were calculated.

RESULTS

Of the 2707 samples examined 1087 (40.15%) were positive (table I).

Out of 1087 patients of Pityriasis versicolor, 29.35% were females and 26.12% were males with female preponderance F/M = 1.12. Most of patients were young adults (table 2).

The most affected age group was between 16 and 30 years, 26.33% of total cases (table II).

In this study, a prevalence of PV did not show any seasonal variation.

According to clinical examination, majority of the patients of our study had dyschromic macules in face, neck and back.

The present study was revealed that 60 % of patients with dyschromic macules and suspected PV were students and lived in lower socioeconomic status (low level living and unhygienic conditions).

Table I: Frequencies of mycoses of skin and hair and their causative agent

N =2707		
	Hair (n, %)	Skin (n, %)
<i>Dermatophyte</i>	241(8.9%)	1276 (47.15%)
<i>Candida sp.</i>	59(2.18%)	44 (1.66%)
<i>Malassezia sp.</i>	603(22.27%)	484 (17.88%)

Table II: Frequencies of *Malassezia sp.* according to age, gender and seasons

Age	Skin (n, %)	Hair (n, %)	N
Gender			
F	29.35%	25.58%	
M	26.12%	18.95%	
Age group (years)			
<5	8 (0.71%)	4 (0.35%)	12
6-15	93 (8.54%)	162 (14.93%)	225
16-30	286 (26.33%)	70 (15.65%)	456
31-50	151(13.95%)	32 (12.1%)	35
>50	46 (4.24%)	35(3.2%)	81
Season frequencies			
Winter	268(9.89%)	28(15.8%)	696
Spring	422(15.6%)	304 (11.22%)	726
Summer	425(15.7%)	226(8.36%)	651
Autumn	369(13.65%)	265(9.72%)	634

(M): male; (F): Female

Our study confirmed the findings of the previous studies that reported a high frequency of PV among young adults (age group ranging between 16-30), this can attributed to the high level of physical activity, increased sebaceous activity and lipophilic nature of the causative agent (3,4,5,6).

A female preponderance was reported among PV subjects in our study, other studies have shown similar findings, this can be explained by the fact that girl seeks medical care more than boys and has habit of using oily cosmetics, thus favoring the development of lesions. Some studies have shown no gender predisposition (7- 10).

The predominance of hypopigmented lesions in this study was reported and it may be due to the production of dicarboxylic acids by the fungus. This acid acts through inhibition of dihydroxy-phenylalanine tyrosinase and perhaps has a direct cytotoxic effect on hyperactive melanocytes. Pathogenesis of hyperpigmentation is also not understood, but it may be due to an excessive increase in melanosome and more pronounced inflammatory cell infiltrate in these individuals act as a stimulus for the melanocytes (2, 4).

In the present study, there was no seasonal variation but result does not corroborate with other studies of which seasonal trend was found during the summer months and monsoon (climatic conditions in the tropical and subtropical regions) (9- 12).

An analysis of patient's slides on microscope revealed presence of typical round or oval yeast cells with short hyphae (12). These cells were morphologically identical to the fungi of the genus *Malassezia* which cause pityriasis versicolor. Wood's lamp and scotch tape were performed.

In the contract of our study, which showed no association of PV with any risk factors, some studies revealed that a small number of patients with pityriasis versicolor had coexisting systemic diseases (3, 4).

CONCLUSION:

We conclude that the overall clinical and mycological patterns of PV infection in our laboratory in the urban area as observed in children's hospital does not differ statistically from those reported by previous studies. These findings about *Malassezia sp.* involved the role of epidemiological variation in causing PV and hence the interest of further study for better understand its epidemiology.

Conflicts of interest:

There are no conflicts of interest.

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