

# Prevalence of Pityriasis Versicolor and its Association of Abo Blood Groups in OPD Patients of Islam Teaching Hospital Sialkot

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## ABSTRACT

**Objective:** The study was carried out to determine the prevalence of pityriasisversicolor and its association with ABO blood groups in out patients' department of Dermatology at Islam teaching hospital Sialkot.

**Study Design:** Prospective analytical.

**Place and Duration of Study:** This study was carried out the Department of Dermatology, Islam Teaching Hospital, Sialkot; from December 2012 to December. 2015.

**Materials and Methods:** All patients reporting to our OPD during a period of 3 years were included. The patients with mixed infections were excluded and those did not get their blood grouping and less than 3 months treatment & follow up were excluded from the study. All rashes were examined with wood's lamp. Skin scrapings were taken for KOH examination. Blood samples of all the patients were sent for blood group typing. Data of patients was analyzed using SPSS version 22.

**Results:** Out of 6423 patients attending skin OPD, 197 patients were diagnosed as having Pityriasis versicolor; only 170 patients fulfilled the inclusion criteria. Male to female ratio 71: 29. Most of the patients fell in age group 15-50 years. Commonest rash was in multiple areas while followed by Upper trunk only. The prevalence of pityriasisversicolor was more with blood group B and O.

**Conclusion:** The pattern of distribution of rash is most commonly mixed while upper trunk involvement is next in our patients. The study depicts strong association of Pityriasis Versicolor with blood group B and O.

**Key Words:** Tinea versicolor; Dermatophytes; Malassezia furfur; Essential oils

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## INTRODUCTION

In 1846, Eichsdt discovered Versicolor as fungal disease. Later, it was renamed as Microsporum Furfur by Robin. Malassez noted "spores" in 1853. and Baillon (1889) termed it as Malassez Furfur. Sabouraud, Castellani and Chalmers later used the genus name as Pityrosporum ovale. Gordon (1951), discovered a yeast and named it Pityrosporum orbiculare. Rashes like macules as varied pigmentations, dark brown or erythematous patches amongst the normal skin are presentation of Pityriasis versicolor<sup>1</sup>. Most commonly, back, abdomen, chest wall and upper limbs are involved. In children, face and forehead with hypo pigmented rash is affected.

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Less common areas involved are penis, genitalia, lower limbs, fore arms, knee and axillary pits<sup>2</sup>. Higher temperatures and higher humid areas of the world is the distribution of this disease; but the frequency varies and socio- economic and occupational factors also affect its occurrence. Transmission may be hereditary<sup>3</sup>.

Caused by a yeast; Pityriasis versicolor is a benign and non-contagious rash which presents as colour changes due to presence of Malassezia Furfur that is a fungus in normal skin flora (also called pityrosporum). The population which is susceptible; the germ multiplies on skin and a rash presents. This infection seems to be triggered by humid and hot sunny climate. The treatment clears the rash. Susceptible people require regular treatment to avoid recurrence. Two morphological forms i.e. one ovoid and the other spherical, in which the germ is called Pityrosporum ovale and Pityrosporum orbiculare respectively<sup>4,5,6</sup>. Other names are tinea versicolor, dermatomycosis furfuracea and tinea flava. It is more common in the tropics. Evidence shows that Pityriasis versicolor is common in children<sup>7,8,9,10</sup>. There seems a strong association of ABO blood groups with the disease; and some studies in different regions were carried to see this relationship. No study in this regard is available from this region; so we wanted to study the prevalence of association of ABO blood groups in our patients.

## MATERIALS AND METHODS

All patients reporting to our OPD during a period of 3 years were included. The patients with mixed infections were excluded and those did not get their blood grouping and 3 months treatment follow up were excluded from the study.

All rashes were examined with wood's lamp. Skin scrapings were taken for KOH examination. Blood samples of all the patients were sent for blood group typing. Data of patients was analysed using SPSS version 22.

## RESULTS

**Table No. I: General Data**

Total patients attending OPD	6423
Diagnosed cases of Pitryasis Versicolor	197
Patients included in the study	170 ( 100%)
Age	1-15 years : 6(31.70%) 15-50 years : 148(58.53%) >60 years: 16(9.75%)
Sex ( m : f)	(115:55) (70.8%:29.2%)

**Table No.2: Association of Tinea. versicolor with ABO (n=170)(100%)**

	Group A	Group B	Group O	Group AB
Females	4 (2.35%)	28 (16.47%)	14 (8.23%)	9 (5.29%)
males	9 (5.29%)	57 (33.52%)	28 (16.47%)	21 (12.35%)
Total	13 (7.64%)	85 (50.00%)	42 (24.70%)	30 (17.64%)

**Table No.3: Distribution of lesions n=170 (100%)**

Upper Trunk	45(26.47%)
Axillae	9(5.29%)
Face	7(4.11%)
Scalp	6(3.52%)
Groin/genitalia	6(3.52%)
Multiple areas	97(57.05%)

## DISCUSSION

Scientists have studied relationship between ABO blood groups and different diseases. In Hansen disease or leprosy, Beigulman<sup>11</sup> studied the frequency of population with blood group O was more in patients of tuberculoid leprosy than lepromatous leprosy. Derensiki<sup>12</sup> observed higher incidence of coccidiomycosis in individuals from blood group B. Robinson<sup>13</sup>, Socha& Kaezeria<sup>14</sup> reported the population with B group present gram negative infections with more frequency than other groups. Alkhafajii<sup>15</sup>

observed that 540.9% of patients having recurrent furunculosis by Staph aureus had blood group O followed by 22.7% having blood group B. Young & Roh<sup>16</sup> described identical features between trichophytonrubrum, trichophytonmentagrophytes and E. Floccosum cell wall proteins with that of types 5A1 and A2 human erythrocytes isoantigens which is suggestive of crossreactivity, would turn blood group A individuals more prone to chronic dermatophyte infections.

Alkhafajii and Alhasanawei 2014 studied the incidence of different dermatophytes in different ABO blood group patients of Iranian population. The blood groups of 600 individuals of normal population were as follows: blood group A 22.7, O 27, AB 25.4, B 22.3. In this study there is statistically significant ratio of cases of dermatophyte infections in patients of blood groups A and O including Tinea versicolor

## CONCLUSION

The pattern of distribution of rash is most commonly mixed while upper trunk involvement is next in our patients. The study depicts strong association of Pitryasis Versicolor with blood group B and O.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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