

Frequency of Pityriasis Versicolor in Patients with Uncontrolled Type 2 Diabetes Attending a Tertiary Care Hospital

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ABSTRACT

INTRODUCTION: Pityriasis versicolor is seen frequently in patients with uncontrolled diabetes mellitus.

OBJECTIVE: The study was aimed to determine frequency of Pityriasis versicolor in patients with type 2 uncontrolled diabetes in a tertiary care hospital.

STUDY DESIGN: Cross-sectional study.

SETTING: Department of Dermatology, Civil Hospital Karachi and Department of Dermatology, Ziauddin University, Karachi.

DURATION OF STUDY: Duration of study was 6 months from 1st May 2010 to 31st October 2010.

SUBJECTS AND METHODS: Patients aged 40 to 70 years belonging to both sexes with uncontrolled diabetes mellitus of duration more than 5 years were included after an informed consent. Patients taking corticosteroid or immunosuppressive drugs or having any other co morbidity were excluded. Selected patients were examined with magnifying glass and wood's lamp. The diagnosis was confirmed by KOH smear, microscopy and Wood's lamp examination. The findings were recorded on a proforma. All the findings were compiled, tabulated and analyzed.

RESULTS: 119 patients were included in the study comprising 68 males (57%) and 51 females (43%). Patients aged 40 to 70 years, with the mean age of 51.3 years were studied in three age groups i.e. 40-50 years, 51-60 years and >60 years. Majority of patients (57%) belonged to the age group 40-50 years. The duration of diabetes was 5-10 years in maximum number of patients i.e. 72. Among these patients 5(4.2%) had tinea versicolor comprising 3 males (60%) and 2 females (40%). Three of these patients had diabetes for 5-10 years and 2 had the same for 11-15 years. 2 patients (40%) aged 40-50 years, 2 (40%) 51-60 years and remaining 1 patient aged between 61-70 years (20%).

CONCLUSION: It can be concluded from the above study that Pityriasis versicolor is not seen commonly in patients with diabetes mellitus.

KEY WORDS: Pityriasis versicolor, Tinea versicolor, Diabetes mellitus.

INTRODUCTION

Pityriasis versicolor is a fungal infection occurring more commonly in tropical countries. It may affect up to 40% of population in these areas.⁽¹⁾ It is a superficial infection of stratum corneum caused by *Malassezia Globosa*.⁽²⁾ Patients with varying degrees of immunosuppression due to Cushing's disease or steroid intake have been found to develop Pityriasis versicolor. It is also seen frequently in patients with uncontrolled diabetes (5.2%).⁽³⁾

With an estimated 60 million people worldwide, all populations and age groups are affected by diabetes mellitus.⁽⁴⁾ It has been estimated by the World Health Organization (WHO) that the incidence will rise to 300 million by the year 2025.^(5,6) Diabetic patients may develop various complications like recurrent cutaneous and systemic infections.

Susceptibility to develop skin infections is higher in

these patients (62.2%).⁽⁷⁾ Although the overall incidence of skin infections in diabetics is not higher as compared to healthy population, diabetics seem to suffer from certain types of fungal infections more frequently.^(8,9) In another study both diabetics and controls presented with similar frequency of superficial fungal infection.⁽¹⁰⁾

Diabetes mellitus is a common disease and susceptibility to fungal infections like Pityriasis versicolor is high. There is a lack of data regarding the frequency of Pityriasis versicolor in diabetic patients in our country.

The study was aimed to determine the frequency of Pityriasis versicolor in patients with type 2 uncontrolled diabetes in a tertiary care hospital.

MATERIAL AND METHODS

The descriptive cross sectional study was conducted in patients attending out patient department of

Dermatology, Diabetes OPD, Civil hospital Karachi and outpatient department of Dermatology, Ziauddin hospital, Karachi. Duration of the study was 6 months from 1st May 2010 to 31st October 2010. Patients were selected by non-probability consecutive sampling. Patients aged 40 to 70 years, belonging to both sexes with type 2 uncontrolled diabetes mellitus of duration more than 5 years were included in the study. Patients having HbA1C level above 7.5 were labeled as having uncontrolled diabetes mellitus. Patients taking corticosteroid or immunosuppressive drugs or having any other co morbid were excluded.

After an informed consent, selected patients were examined with magnifying glass and Wood's lamp to see the colour, scaling, distribution and yellow fluorescence. In all these clinically diagnosed cases, scrapings were taken for microscopy with KOH and presence of hyphae and spores was taken as diagnostic. The findings were recorded on a proforma.

SPSS version 10 was used to analyze the data. Variables included were presence or absence of Pityriasis versicolor, age, sex and duration of diabetes. Frequency and percentages were computed for sex and presence or absence of Pityriasis versicolor. Mean and standard deviation were computed for age and duration of diabetes.

Effect modifiers were controlled through stratification of age in groups of 40-50years, 51-60years, 61-70years, gender (male and female) and duration of diabetes (5-10 years, 11-15 years, and more than 15 years) to observe effect on outcome.

RESULTS

A total of 119 patients were included in the study. There were 68 (57%) males and 51(43%) females. Patients enrolled were between 40 to 70 years of age, with the mean age of presentation being 51.3 years. Patients were divided into three groups age wise 40-50 years, 51-60 years and >60 years. Among these groups 57% patients were aged between 40-50 years, 33% in the age group of 51-60 years and remaining 10% were aged between 61-70 years.

The duration of diabetes from the date of diagnosis was 5-10 years in 72 (62.2%) patients, 11-15 years in 26 (22%) and more than 15 years in 19 (16%) patients.

Among these patients 5(4.2%) had tinea versicolor. There were 3 males and 2 females.

Three of these patients had diabetes for 5-10 years and 2 had the same for 11-15 years. None of the patients with diabetes for more than 15 years presented with the disease.

Among the patients presenting with tinea versicolor 2 were in the age range 40-50 years, 2 in 51-60 years while the remaining 1 patient aged between 61-70 years.

DISCUSSION

Pityriasis versicolor is a superficial fungal infection of skin, caused by *Malassezia* species which are considered a part of normal flora particularly on scalp, face and trunk. ^(9, 11) Hot and humid weather is an important triggering factor and immunosuppression due to steroids or uncontrolled diabetes predisposes to widespread Pityriasis versicolor. ⁽¹²⁾

Patients with diabetes mellitus are found to have a higher incidence of infections. Infections have a more severe clinical course and are one of the most common complications of diabetes.

Impairment of leukocyte chemotaxis, adherence and phagocytosis during hyperglycemia may be the underlying cause of this phenomenon. ^(13, 14) Cutaneous T cell function is also compromised in these patients. ^(15, 16) Superficial fungal infections like Pityriasis versicolor are more commonly seen in patients with type 2 diabetes mellitus. This study was conducted to see frequency of Pityriasis versicolor in diabetics in our set up.

In the current study, only 5 (4.2%) patients out of 119 were found to have Pityriasis versicolor.

These findings are comparable with Foss NT et al. ⁽³⁾, who reported a frequency of 5.2% in diabetics. Similarly, Ghosh SK et al. ⁽¹⁾ reported a slightly low frequency as compared to the current study. In another study, the reported frequency was 3.3% ⁽¹¹⁾, but the frequency can vary from one study to another depending upon the sample size and set up. On the contrary no case of tinea versicolor was reported in similar series of studies from our neighbor country India. ^(14, 15, 16)

Pityriasis versicolor is found to affect younger age groups more frequently. ⁽¹⁷⁾ The fact has been documented by Karakas M et al. ⁽¹⁸⁾ who showed the highest frequency in patients aged 16-30 years. No significant difference was observed in different age groups in current study. An older age group i.e. 40-70 years and less variability in age groups could account for this fact.

In the current study, 3 males were affected as compared to 2 females. Similar frequency has been documented by Nigam P and K. P. Kyriakis et al. ^(14, 19)

Duration of diabetes mellitus was not found to be a contributory factor in the development of Pityriasis versicolor in this study. We recommend larger scale

studies on this subject in order to establish the association. Multiple other studies have shown similar results. ^(3, 20) Yosipovitch G et al. ⁽¹¹⁾ showed Pityriasis versicolor in 3.3% patients with diabetes of more than five years duration. Age and duration of diabetes were also considered significant risk factors in another study conducted by Bouguerra et al. ⁽²¹⁾ However, the findings can vary from one study to another depending upon the setting, design and sample size.

This study was primarily focused to determine frequency of Pityriasis versicolor in patients with diabetes mellitus. Studies from time to time focusing on cutaneous manifestations of diabetes mellitus have revealed variable frequency of Pityriasis versicolor in patients with diabetes mellitus. ^(22, 23, 24)

This study emphasizes the need for further research in this regard for better understanding of the disease and its management.

CONCLUSION

It can be concluded from the above study that Pityriasis versicolor is seen in patients with diabetes mellitus but is not common.

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