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Research Article

STUDY TO KNOW THE PITYRIASIS VERSICOLOR FREQUENCY IN DIABETES MELLITUS TYPE II PATIENTS WITH POOR COMPLIANCE

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Abstract:

Objective: The aim of the study was to determine the frequency of Pityriasis versicolor in type 2 diabetes mellitus patients with poor compliance.

Study design: A cross-sectional study.

Place and Duration: In the Dermatology department of Mayo Hospital, Lahore for one year duration from November 2017 to November 2018.

Methods: Patients aged between 40 and 70 years in both genders with out of control diabetes mellitus were enrolled after informed consent. We excluded patients who received corticosteroids or immunosuppressive drugs or other accompanying patients. The selected subjects were evaluated with a magnifying glass and a wooden lamp. By Wood's lamp, microscopy and koh smears examination, diagnosis was confirmed. In a proforma, results were recorded. All results were tabulated, analyzed and compiled.

Results: 119 patients (68 male (57%) and 51 female (43%)) were selected for the study. Patients between the 40-70 years of age with 51.3 years mean age were analyzed and studied in the three age groups, namely > 60 years, 51-60 years and 40-50 years. The majority of the patients (57%) were in the 40-50 age group. The diabetes mellitus duration was 5 to 10 years in the majority of patients, ie, 72 (3 male, 60%) and 2 females (40%) of these patients have tinea versicolor. Three of these patients had 5-10 years of diabetes and 2 patients had 11-15 years of same disease. Two patients (40%) from 40 to 50 years, 2 patients (40%) from 51 to 60 years, and 1 patient (20%) between 61 and 70 years.

Conclusion: It can be concluded that Pityriasis versicolor is not common in diabetes mellitus patients.

Key words: Diabetes mellitus, Tinea versicolor, Pityriasis versicolor.

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INTRODUCTION:

In tropical countries, the most common fungal infection is Pityriasis versicolor. In these regions it can affect 40% of the population [1-3]. Malassezia Golobosa is stratum corneum infection which is the superficial layer of skin [4]. Pityriasis versicolor was developed in patients with changes in immuno suppression or immunity due to steroid intake or Cushing's disease. It is also frequently noted in uncontrolled diabetic patients (5.3%) [5]. Globally, 60 million people are infected approximately; all age groups or population are affected by diabetes mellitus [6]. The WHO estimated; the ratio will increase to 311 million by 2025⁷. Diabetic patients may have different issues, such as systemic infections or recurrent skin. The sensitivity skin infections development was greater in these subjects (63.1%). Although the skin infections incidence in diabetes mellitus is not greater than in the normal people, diabetics suppose to effect more frequently than some types of fungal infections [8]. In another analysis, both diabetes and controls had a same ratio of fungal infections superficially. Diabetes mellitus is a common disease and has a high sensitivity to fungal infections such as pityriasis versicolor [9]. In our country, there is less researches done to know the Pityriasis versicolor frequency in diabetic patients. The aim of the analysis was to evaluate the Pityriasis versicolor frequency in uncontrolled type 2 diabetic patients.

MATERIALS AND METHODS:

This cross-sectional study was held in the Dermatology department of Mayo Hospital, Lahore for one year duration from November 2017 to November 2018.

Patients were selected by sequential random sampling. Patients between the ages of 40 and 70 years in both sexes with poor control type 2 diabetes mellitus and who had D.M above than 5 years were selected for the study. Patients with HbA1C levels above 7.5 were labeled as uncontrolled diabetes

mellitus. Patients with corticosteroids or immunosuppressants or other comorbidities were excluded from the study. After taking consent, selectees were evaluated with a Wood lamp or magnifier to see color, scale, scatter and yellow fluorescence. All of the patients diagnosed as clinically were scraped for microscopy with KOH. The results were saved in SPSS version 19.0; used for data analysis. The variables selected were the absence or presence of Pityriasis versicolor, gender, diabetes mellitus duration and age. Percentages and Frequency were calculated by gender and the absence or presence of Pityriasis versicolor. The standard deviation and mean were calculated for the duration of diabetes and age. Impact modifiers were controlled by age groups of 61-70 years, 51-60 years, 40-50 years, diabetes mellitus duration (5-10 years, 11-15 years) and gender (female and male) to detect the effect on the result.

RESULTS:

The total patients were 119 who were selected for study. The male were 68 (57%) and female 51 (43%). The enrolled subjects were between the ages of 40-70 with a mean age of 51.2 years. Into 3 groups according to age he patients were divided: > 60 years, 51-60 years and 40-50 years. 57% of subjects in these groups were between the ages of 40 and 50 years, 33% between 51 and 60 years, and 10% between 60-71 years of age. From the diagnosis date, the diabetes mellitus duration was 5 to 10 years in (62.2%)72 patients, in (22%)26 patients was 11 to 15 years and in 19 patients (16) more than 15 years). The tinea versicolor was observed in Five of these patients (4.2%). There were 2 women and 3 men. 3 of them had 5-10 years of diabetes and 2 patients had 11-15 years of same disease. The patient did not present a patient with diabetes for more than 15 years. Among the patients with tinea versicolor, 2 were between the ages of 40 and 50, 2 were between the ages of 51 and 60, while the existing were between 60-71 years of age.



DISCUSSION:

Pityriasis versicolor is a superficial fungal infection of the skin on the scalp, face and trunk caused by *Malassezia* species seen as part of the normal flora [10-11]. Hot and humid air is an important trigger and is applied to a generalized Pityriasis versicolor

due to steroids or uncontrolled diabetes. The incidence of infection is higher in patients with diabetes mellitus. Infections have a more serious clinical course and are one of the most common complications of diabetes [12].

Tinea versicolor

- caused by the yeast *Malassezia furfur*
- the majority of pityriasis versicolor is caused by *Malassezia globosa*
- normally found on the human *skin*
- Usually during warm and humid environment
- Not contagious (normal flora)



Discontinuation of leukocyte chemotaxis during hyperglycemia, adhesion, and phagocytosis can be the underlying cause of this phenomenon. The skin function of T cells is also compromised in these patients. Superficial infections of fungi such as Pityriasis versicolor are more common in patients with type 2 diabetes mellitus. In this study, only 5 (4.2%) of 119 patients had pityriasis versicolor [13]. These findings were reported by Foss NT et al. Similarly, Ghosh SK et al. He reported a slightly lower frequency than this study. In another study, the reported frequency was 3.3%, but the frequency may vary from one study to another depending on sample size and configuration [14]. In contrast, no similar cases of tin versicolor have been reported in a series of similar studies from neighboring India. This study mainly focuses on determining the frequency of pityriasis versicolor in patients with diabetes mellitus. Rarely, studies focusing on the skin findings of diabetes mellitus have revealed a variable frequency of pityriasis versicolor in patients with diabetes mellitus [15]. This study emphasizes the need for further research to better understand the disease and its treatment.

CONCLUSION:

It can be concluded from the previous study that Pityriasis versicolor is observed in patients with diabetes mellitus but not frequent.

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