



A STUDY OF SKIN INFESTATIONS IN TYPE 2 DIABETES MELLITUS:

Dermatology

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ABSTRACT

Diabetes mellitus (DM) is one of the major health problem with increasing numbers. Diabetes prevalence among all age groups globally estimates to about 2.8% in the year 2000 (171 million) and is estimated to reach up to 4.4% by the year 2030 (366 million). The gravity of which is going to be very high in developing and underdeveloped countries, where the prevalence will rise from 4.2% to 5.6%. Skin being the largest organ of the body also gets affected by both acute metabolic derangements as well as chronic degenerative complication of DM. Multitude of factors are involved in manifestation of dermatological signs of DM. Derangement in carbohydrate metabolism, alters metabolic pathways in the patients leading to manifestation of the disease in various forms involving all the systems of the body. The incidence of cutaneous disorders are more commonly seen than the manifestations of the disease in other systems of the body. So a study to look into various skin manifestations in DM may help us in early diagnosis of diabetes and its complications or severity along with aiding in effective handling of the case. Though there are many studies done, each have their own results differing from region to region.

KEYWORDS

Diabetes Mellitus, Cutaneous Disorder, Diagnosis, Carbohydrate Metabolism Disorder.

Introduction:

Diabetes mellitus (DM) is one of the major health problem with increasing numbers. Diabetes prevalence among all age groups globally estimates to about 2.8% in the year 2000 (171 million) and is estimated to reach up to 4.4% by the year 2030 (366 million). The gravity of which is going to be very high in developing and underdeveloped countries, where the prevalence will rise from 4.2% to 5.6%.¹ Skin being the largest organ of the body also gets affected by both acute metabolic derangements as well as chronic degenerative complication of DM.^{2,3} Multitude of factors are involved in manifestation of dermatological signs of DM. Derangement in carbohydrate metabolism, alters metabolic pathways in the patients leading to manifestation of the disease in various forms involving all the systems of the body. The incidence of cutaneous disorders are more commonly seen than the manifestations of the disease in other systems of the body. Dermatological manifestations of DM are usually seen once the disease develops, at times they may precede the development of the disease and can give a clue of the impending metabolic disorder. Few of the skin manifestations are a result of direct metabolic changes arising due to hyperglycaemia and lipid abnormalities. Many of the other complications are as a result of vasculopathies, neuropathy or immunological. Results here are comparable to ones done by many others.^{4,5} Majority of subjects had a history of DM of over 10 years - 64%, and all those who had history of diabetes of over 10 years had dermatological manifestations. This assumes significance as with increasing duration of illness the complications tend to rise. They are due to the formation of advanced glycaated products that are formed nonenzymatically causing cutaneous damage.^{6,7}

This study is intended to understand the most common skin manifestations in Diabetes Mellitus.

Aims and Objectives:

To understand the most common skin manifestations in Diabetes Mellitus.

Materials and Methods:

This study is done in the Department of Dermatology, Travancore Medical College, Kollam.

This study was done from oct 2015 to sept 2017.

A total number of 60 patients were studied.

Inclusion Criteria: The patients were known diabetic for at least five years.

Exclusion Criteria: Patients who were treated with immune suppressant drugs were not included in the present study.

Results:

Table 1: Mean age of the Patients

Patients	Mean age	Standard Deviation
60	54.19	7.47

Table 2: Total Number of Patients who developed complications

Patients	Incidence	Percentage
60	33	55%

Table 3: Table of Significance

Patients	X-Value	P-Value (<0.05)
33	0.121	0.071

This is not significant.

Table 4: Skin Infestations:

Skin Manifestation	Frequency
Bacterial Foot ulcer	07
Fungal	19
Cellulitis	1
Urticaria	21
Angular Stomatitis	07
Acanthosis nigricans	01

Discussion:

Incidence of Candida infections has increased dramatically. They have significantly contributed to mortality in immunocompromised patients including DM patients. Candida organisms are oval microscopic yeasts (4-6 µm) having thin wall and reproduce by budding. Of the 150 Candida spp., only about 10 are pathogenic to humans. Breakdown of human immune defence system is essential for Candida to be pathogenic. This study is undertaken to see the pattern of cutaneous fungal infections in type 2 diabetes mellitus to enrich literature with data to help in effective management of diabetes mellitus as well as fungal infections. According to Sampath Kumar et al. the type of fungal infections, total of twenty four patients suffered from tinea pedis infection out of which seventeen were males and seven were females. Eleven patients suffered from onychomycosis, out of which, ten were males and one was female. A total of four patients suffered from Candidal skin infection, out of which, three were males and one was female. Four patients suffered from Candida angular cheilitis, out of which, male and female amounted to two cases each. Six males were noted to have Candida balanitis and three females suffered from vaginal yeast infections. A total number of eight patients suffered from Candida intertrigo, out of which, three cases were males and five cases were female. Skin problems are usually not considered and never attended in diabetics. The bacterial infections are also increasing. Resistant strain are also emerging.

Conclusion:

The cutaneous manifestations will give an overview of the duration of

the disease and the level of glycaemic control in the patients.

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