

ORIGINAL RESEARCH

A study on Cutaneous Manifestations of Diabetes Mellitus in a Tertiary Care Centre

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ABSTRACT

Background: Cutaneous manifestations are found in more than 25 percent of Diabetes Mellitus (DM) patients. Diabetic dermopathy is related to the abnormal carbohydrate metabolism, microangiopathy, Peripheral neuropathy, Peripheral vascular disease, atherosclerosis and impaired host defence mechanism. Diabetic dermopathy give a clue to current and past status of glycemic control. **Aim:** This study aims to assess the variety of cutaneous manifestations and nail changes of Diabetes Mellitus patients admitted in Tertiary care centre.

Methods: The study was a cross sectional study of 100 adult diabetes Mellitus patients with cutaneous manifestations attending our Diabetic clinic were included in the study with proper inclusion and exclusion criteria and informed consent. The study period was for one year from January 2022 to December 2022. All patients were subjected to proper history, physical examination, dermatologist opinion and appropriate investigations. Data was analysed using statistical package in social science.

Results: Skin manifestations were common in Type 2 Diabetes mellitus than Type1 Diabetes Mellitus. Infections predominate the list. Fungal infections followed by bacterial infections. In nail changes onychomycosis is common. The longer the duration of Diabetes more the skin manifestations. The patients with poor glycemic control had more skin manifestations.

Conclusion: Skin manifestations may be sometimes the first manifestation of Diabetes Mellitus especially candidiasis. Most of the patients with cutaneous manifestations also had systemic complications of Diabetes Mellitus. So dermatological evaluation of patients is necessary and sometimes it may give potential clues in diagnosing Diabetes mellitus and its complications.

Keywords: Diabetes Mellitus, Cutaneous manifestations

INTRODUCTION

Diabetes Mellitus is the major non communicable disease with varied complications involving each and every organ of the body. There is a spectrum of Cutaneous manifestations of Diabetes which even gives clue to the diagnosis of Diabetes Mellitus, but its often ignored. Dermatological manifestations are found in more than 25 percent of Diabetic patients. Diabetic dermopathy is

related to the abnormal carbohydrate metabolism, microangiopathy, Peripheral neuropathy, Peripheral vascular disease, atherosclerosis and impaired host defence mechanism. Diabetic dermopathy give a clue to current and past status of glycemic control. Cutaneous manifestations are more common in Type 2 Diabetes Mellitus. The various skin manifestations are cutaneous infections (fungal and bacterial), Acanthosis nigricans, vitiligo, xerosis, xanthelasma. This study was intended to study the various cutaneous manifestations of DM.

MATERIALS AND METHODS

This study was conducted at Government Dharmapuri Medical College Hospital Diabetes clinic over a period of one year from January 2022 to December 2022. It was an cross sectional observational study. Sample size was 100. Inclusion criteria: Adult Patients with Diabetes Mellitus with complaints of skin or nail involvement. Exclusion criteria: Patients with other immunocompromised diseases and those on immunosuppressive drugs were excluded from the study. All patients were subjected to proper history, physical examination, dermatologist opinion and appropriate investigations. Data was analysed using statistical package in social science.

RESULT

Out of 100 patients studied Cutaneous manifestations commonly found in our study were shown in Table 1. Majority of our patients had xerosis . 26 patients had fungal infections and followed by bacterial skin infections in 21 patients. Diabetic dermopathy was found in 18 patients and pruritis in 31 patients probably due to xerosis. Acanthosis nigricans was found in 12 patients and most of them were obese. 19 patients had onychomycosis – fungal infection of nails. 18 patients had diabetic foot ulcer and its commonly found in those with longer duration of Diabetes with poor glycemic control. Diabetic foot ulcer may be due to peripheral neuropathy and peripheral vascular disease. Most of the cutaneous manifestations were commonly seen in Type 2 DM patients than Type 1 DM as shown in Table 1.

Table 1: Cutaneous manifestations versus Type of DM

Cutaneous manifestations	Type 1 DM	Type 2 DM	Total
Fungal infections of skin	9	17	26
Bacterial infections of skin	6	15	21
Xerosis	0	40	40
Diabetic dermopathy	2	16	18
Pruritis	0	31	31
Acanthosis nigricans	1	11	12
Diabetic foot ulcer	2	16	18
Xanthelasma	0	3	3
Onychomycosis	11	18	19

Cutaneous manifestations of Diabetes mellitus correlates with the duration of DM. Most of the manifestations are more common in those with diabetes mellitus for more than 10 years as shown in Table 2. Poor glycemic control is associated with more cutaneous manifestations as shown in Table 3.

Table 2: Cutaneous manifestations versus Duration of DM

Cutaneous manifestations	Duration of DM 0 to 5 years	Duration of DM 5 to 10 years	Duration of DM 10 to 15 years	Total
Fungal infections of skin	3	4	19	26
Bacterial infections of skin	2	5	14	21
Xerosis	0	0	40	40
Diabetic dermopathy	2	1	15	18
Pruritis	0	6	25	31
Acanthosis nigricans	1	3	8	12
Diabetic foot ulcer	2	1	15	18
Xanthelasma	0	0	3	3
Onychomycosis	2	7	11	19

Table 3: Cutaneous manifestations versus Glycemic control

Cutaneous manifestations	HBA1C less than 7	HBA1C more than 7	Total
Fungal infections	3	4	26
Bacterial infections	2	5	21
Xerosis	0	0	40
Diabetic dermopathy	2	1	18
Pruritis	0	6	31
Acanthosis nigricans	1	3	12
Diabetic foot ulcer	2	16	18
Xanthelasma	0	0	3
Onychomycosis	3	16	19

DISCUSSION

In our study most of the patients were elderly more than 50 years. Cutaneous manifestations were more in patients with diabetes of more than 10 years. Cutaneous manifestations especially infections were commonly observed in patients with uncontrolled diabetes mellitus. skin involvement is commonly seen in Type 1 Diabetic patients compared to Type 2 Diabetics. Candidiasis followed by Tinea infection were common among fungal infections. Xerosis was seen 40 percent of patients which may be the cause for pruritis in 31 percent of patients. In nail changes also fungal infection was more common.

CONCLUSION

Skin manifestations may be sometimes the first manifestation of Diabetes Mellitus especially candidiasis. Most of the patients with cutaneous manifestations also had systemic complications of Diabetes Mellitus. So dermatological evaluation of patients is necessary and sometimes it may give potential clues in diagnosing Diabetes mellitus and its complications.

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