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Medicine

To Study the Relation of Skin Manifestation with Duration of Diabetes at Govt. District Hospital, Ratlam

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Original Research Article

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Abstract: 300 cases of type 2 diabetes mellitus attending in and out patient at department of medicine and endocrinology at Govt. District Hospital, Ratlam were evaluated for random basis of study. A total of 181 patients were found to have cutaneous manifestation. Skin tag was accounted in 4.3% of patients. Majority of the patients 58% of patient had duration of diabetes of > 10 years. Following skin manifestations were seen more commonly in males – Viral (8.0%), acanthosis (6.8%), nail changes (5.1%), bacterial (20.5%), keratosis (2.3%) and vitiligo (5.1%) in comparison to females. Following skin manifestations were seen more commonly in females– Fungal (21.8%), skin tag (4.8%) & DD (4.8%) in comparison to males.
Keywords: keratosis, diabetes, skin manifestations.

INTRODUCTION

Diabetes mellitus (DM) is the most common endocrine disorder characterized by hyperglycemia[1]. Total number of diabetic patients globally in 2030 is estimated around 550 million. According to IDF total number of diabetic patients in India is around 61.3 million and till 2030 it would be around 101.2 million [2]. While all other complications like neuropathy nephropathy retinopathy, cardiac manifestations of diabetes have been extensively studied, the aspect of dermatological complications is relatively less or unexplored. There no epidemiologic data related to skin disorders in diabetics reported from tertiary health centre in rural setup at Ratlam. This study was designed to analyse the prevalence and pattern of skin disorders among diabetic patients from this region.

Nearly one-third of diabetic patients have some type of dermatologic manifestation. With time, the skin of all diabetic patients is affected in some form or another. Cutaneous signs of DM are extremely valuable to the clinician. For example, diabetic bullae, diabetic dermopathy, necrobiosis lipoidicadia beticorum, and the scleroderma-like syndrome of waxy skin with limited joint mobility can alert the physician to the diagnosis of diabetes[1].

AIMS AND OBJECTIVES

- Relation of skin manifestation with duration of diabetes.

MATERIALS AND METHODS

The present study entitled *"Skin manifestations in patients with type 2 diabetes mellitus"* was conducted at Department of Medicine, Govt. District Hospital, Ratlam (M.P.)

TIME FRAME TO ADDRESS THE STUDY

The study was carried out from March 2015 to August 2016.

STUDY POPULATION

All the patients coming to the Department of Medicine of our institution, during the study period with type 2 diabetes mellitus

SAMPLE SIZE AND SAMPLING TECHNIQUE

For the study, we had included 300 random cases presented to us during the study period. We used convenient sampling technique for selection of the patients.

INCLUSION CRITERIA

- All diabetic patients newly or previously diagnosed of 18 to 70 years of age group

- Patients and/or his/her legally acceptable representative willing to provide voluntary written informed consent for participation in the study

EXCLUSION CRITERIA

- Patients of gestational diabetes
- Patient of type 2 diabetes with preexisting renal disease, stroke and other endocrinopathies
- Type 1 diabetes mellitus
- Patients and/or his/her legally acceptable representative not willing to provide voluntary written informed consent for participation in the study

METHODOLOGY

The patient and/or his/her legally acceptable representative were explained about the study in detail. After obtaining their verbal consent to participate in the study, a voluntary written informed consent was obtained from them before initiating the study related procedures.

All patients diagnosed with type 2 diabetes from age group 18 to 70 years without any preexisting renal disease, gestational diabetes, endocrinopathies were enrolled.

- History
- Age
- Sex
- Duration of diabetes
- Radial pulse
- Blood pressure
- Head to toe examination with special emphasis on cutaneous and mucocutenous membrane (hair, skin, nape of neck, nails, shin of tibia, inguinal region)
- Dermatological examination by dermatologist (if required)

INVESTIGATION DETAILS Investigation including:

- Complete blood count
- RBS,FBS, PPBS
- HbA1C
- Serum creatinine
- Blood urea
- TSH (T3 & T4 if required)
- Histopathological examination will be carried out by dermatologist to give diagnosis wherever required.

DATA COLLECTION METHODS

The data was collected prospectively and systematically in a pre-established pro forma (designed by the author) after an informed written consent will be obtained from all subjects.

OUTCOME MEASURES

The following parameters viz. duration of diabetes, HbA1c, skin manifestations were analyzed in detail.

OBSERVATIONS & RESULTS

Table-1: Association of Viral with Duration of Diabetes (N=300)

Duration of Diabetes	Absent	Present	Total
< 10 years	122	8	130
> 10 years	163	7	170
Total	285	15	300

χ^2=0.643, df=1, P value = 0.423, Not significant

The above table shows the association of viral with duration of diabetes. No statistically significant association was seen between viral and duration of diabetes (P > 0.05), showing viral is not dependent on duration of diabetes.

Table-2: Association of Fungal with Duration of Diabetes (N=300)

Duration of Diabetes	Absent	Present	Total
< 10 years	111	19	130
> 10 years	146	24	170
Total	257	43	300

χ^2=0.015, df=1, P value = 0.903, Not significant

The above table shows the association of fungal with duration of diabetes. No statistically significant association was seen between fungal and duration of diabetes (P > 0.05), showing fungal is not dependent on duration of diabetes.

Fig-01: fungal infection

Table-3: Association of Skin Tag with Duration of Diabetes (N=300)

Duration of Diabetes	Absent	Present	Total
< 10 years	123	7	130
> 10 years	164	6	170
Total	287	13	300

χ^2=0.612, df=1, P value = 0.434, Not significant

The above table shows the association of skin tag with duration of diabetes. No statistically significant association was seen between skin tag and duration of

diabetes (P > 0.05), showing skin tag is not dependent on duration of diabetes.

Table-4: Association of Vitiligo with Duration of Diabetes (N=300)

Duration of Diabetes	Absent	Present	Total
< 10 years	126	4	130
> 10 years	160	10	170
Total	286	14	300

□2=1.303, df=1, P value = 0.254, Not significant

The above table shows the association of vitiligo with duration of diabetes. No statistically significant association was seen between vitiligo and duration of diabetes (P > 0.05), showing vitiligo is not dependent on duration of diabetes.

DISCUSSION

Skin lesion in diabetes mellitus are sometimes mirror to an underlying disease process and the may be first expression of disease. We conducted a study on 300 patients with type 2 diabetes attending medicine and endocrinology OPD for observing skin lesions at Govt. District Hospital, Ratlam MP.

15 cases (5%) of viral infection were observed in present study. A study with similar finding done by Verma *et al.* [6] showed 2% of patient with viral infection. In a study conducted in Pakistan by Balouch *et al*. 3] in the year 2008 observed that 7.78% of patients have viral infection out of total of 400 patients with type 2 diabetes. Observation in present study in line with above studies.

Fungal infections were the most common (50%), followed by 14.4% bacterial infections and viral infections (7.77%). Among fungal infections, Candida albicans was commonest (22.2%). The non-infectious lesions were skin tags (8.8%), xanthomas (6.6%), and pruritus (6.6%).

Skin tags were found in 13(4.3) % of patients in present study out of 181 patients with skin lesion. In 2008 in a study done in Pakistan by Balouch[3] 8.8% of patients were seen with skin tag.

Nail changes like Yellow nails were seen in 12 patients (4%) in present studies. Furgan *et al.* [7] observed that out of 100 patients with both type 1 and 2 diabetes majority of patient had type 2 diabetes out of which 10.7%patients had yellow nail. Both the studies are in same line.

In our study 39 patients (13%) were found to have pruritus. Khoharo[5] while observed that 40% of patients with type 2 diabetes came the complain of pruritus and type 2 diabetes. Ahmed *et al.* [4] in 2009 founded only 7.1% of patients with pruritus, but their study had both type 1 and type 2 diabetics. Furgan *et al.* [7] founded 1.1% in his study with both type1 and 2 diabetics.

CONCLUSION

A total of 300 patients attending medicine and endocrinology with type 2 diabetes mellitus were observed for skin manifestation.

Out of 300 patients with type 2 diabetes 181 patients were observed with skin manifestation Skin manifestation was mainly observed in age group 50-70 years. Majority of patients with skin lesions were having duration of diabetes of more than 10 years. Skin manifestation like bacterial infection, viral, yellow nail, keratosis and vitiligo were more common observed in males.

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