

CUTANEOUS MANIFESTATIONS OF DIABETES MELLITUS A CLINICAL STUDY

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Eighty-eight patients including 64 males and 24 females with diabetes mellitus and skin diseases were studied. The skin manifestations were common during the fifth decade of life. Maturity onset diabetes had increased incidence of skin disease. Incidence of skin disease was common in early diabetes. Infections both bacterial and fungal were seen in majority of patients. Specific cutaneous markers and metabolic changes were rare and seen in long standing diabetes. Infections were the common problems which recurred subsequently.

Key words : Diabetes mellitus, Cutaneous manifestations

The cutaneous signs of diabetes are the manifestations of multiple factors. Abnormal carbohydrate metabolism, other altered metabolic pathways, atherosclerosis, microangiopathy, neurone degeneration and impaired host mechanism all play a role.¹ Skin of diabetic patient has increased capillary fragility, and blood vessels show decreased circulation. Although some cutaneous reactions are secondary to treatment, skin manifestations may be the first clue to an underlying diabetic diathesis.

Materials and Methods

The study was conducted in the Dermatology

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and Venereology Department of Wenlock District Hospital, Mangalore. All diabetic patients attending Skin OPD, and diabetic in-patients with skin problems were examined over a period of twenty months from November 1990 to June 1992. After investigations, patients with abnormal blood glucose levels were taken for study. A total of 88 patients, 64 men and 24 women were examined during the study period.

Results

Majority of the patients belonged to the fifth decade of life. Incidence of skin diseases among the diabetic patients was found to be 7.6%. Whereas the incidence of skin disease in general population was 0.41%. Incidence of skin diseases was more common in maturity-onset diabetes.

Seventy-one (80.69%) patients were known diabetics and 17(19.32%) patients were diagnosed as diabetics in the skin OPD after

proper investigation. Incidence of skin diseases were more during the first five years of the diabetes compared to that of chronic diabetics. Infections were common in early diabetics whereas metabolic changes and specific cutaneous markers were noted in patients with diabetes for a prolonged period. Main presenting symptom was pruritus which was noted in 53 (60.23%) patients. Table I shows the cutaneous manifestations of diabetes mellitus. Infections were the major cutaneous manifestations.

Table I. Cutaneous manifestations of diabetes mellitus

Cutaneous manifestations	No	Percentage
Infections	69	78.41
Metabolic changes	3	3.41
Specific marker	2	2.27
Neurologic lesions	2	2.27
Miscellaneous	20	22.73

Table II. Infections in diabetics

Infections	No	Percentage
Bacterial	25	36.23
Fungal	41	59.42
Parasitic	12	17.39
Viral	1	1.45

Table II. shows the types of infections seen in the study population. Fungal infections were the commonest which were seen in 41 (59.42%) patients. Among the patients who had metabolic abnormalities, 2(2.27%) had xanthelasma palpebrarum and 1 (1.14%) had

pruritus without any skin manifestation. Among 2 patients who had specific cutaneous marker 1 (1.14%) had diabetic dermopathy and 1(1.14%) had diabetic bulla. Polyneuropathy and diabetic ulcer was noted in one patient each. Miscellaneous conditions like vitiligo, lichen planus, drug reactions, lichen simplex, pustular bacterid, atopic dermatitis, eczema, psoriasis, skin tag and pemphigus vulgaris were noted in 20 patients altogether.

Metabolic changes, neurologic lesions and specific skin markers of diabetes were less common when compared to infections. Among 88 patients, 66(75%) had only one cutaneous manifestation, 16 (18.18%) patients had two, 4(4.55%) had three and 2(2.27%) had four cutaneous manifestations.

Discussion

Our study showed that majority of the cases belonged to the fifth decade of life. Infection is the most common precipitating factor of ketoacidosis in the newly diagnosed diabetics over 45 years.² Microangiopathy which is responsible for the specific cutaneous markers of diabetes are common around 50 years of age.

Majority of skin manifestations occurred within five years of diagnosis of diabetes. Infections were common during early diabetes. This may be explained on the basis of decrease in the host defence mechanism,³ and decreased phagocytic activity,⁴ which is noticed immediately in uncontrolled diabetes and these changes do not require much longer time to develop unlike microangiopathy.

Skin manifestations due to diabetic microangiopathies were seen in chronic diabetes because the deposition of PAS - positive material within the lumina of the blood vessels occurs slowly in the disease process.⁵ The triad of hypertension, diabetes and oral lichen planus is named as Grinspan syndrome.⁶ In the study one patient had hypertension, diabetes and lichen planus without oral mucosal involvement.

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1. Psoriasis : An Overview

Authors : Inderjeet Kaur, Sanjeev Handa and Bhushan Kumar

Published by : Department of Dermatology, Venereology and Leprology, PGIMER, Chandigarh

2. Synopsis of Sexually Transmitted Diseases

Compiled by : Department of Dermatology, Venereology and Leprology, Postgraduate Institute of Medical Education and Research, Chandigarh.

The above two books were released during the 26th Annual conference of IADVL, held at Chandigarh on 30-1-1998. These 2 books are available at a nominal printing cost of Rs. 50 each. For copies contact Dr. Bhushan Kumar, professor and HOD, PGIMER, Chandigarh - 160 012.

3. **Textbook and Atlas of Dermatotomy and Cosmetology.** Editors Satish S Savant, Radha Atal Shah and Deepak Gore. Publishers : Ascad, 25 Saroj Sadan, Police officers Hsg Soc, Versova, Mumbai - 400 061. Price : Rs. 500.00