DIABETES MELLITUS—AN ANALYSIS OF 1192 PATIENTS

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Abstract

1192 patients attending the outdoor clinic of Diabetic Association of Pakistan, Karachi, over a period of twelve months were analyzed. The frequency of diabetes in males was more than in females. The highest incidence was found in the age group between 41 and 60 years. 45.3 percent of the patients had been given oral antidiabetics prior to their registration in the Diabetes Clinic. 38 percent of the subjects had been accidentally discovered to have diabetes and a positive family history was available in 35.8 percent.

Introduction

It is an established fact that diabetes mellitus in the tropical countries differs considerably in various aspects from the pattern seen in temperate regions (Tulloch 1962). In the tropics the diabetes encountered is relatively mild (Editorial B.M.J., 1959) and the juvenile onset type is less frequent with varying clinical features. The juvenile patients are often underweight, insulin resistant requiring large doses of insulin, but less prone to ketoacidosis (Tripathy and Kar, 1965; Wada et al., 1964).

A survey of 1192 diabetic patients registered over a period of twelve months (January to December, 1975) in a local outdoor Diabetes Clinic in Karachi, revealed various aspects of the disease, which could be compared with features in the temperate zones.

Material and Methods

All patients registered from January 1975 to December 1975 were included in the survey. At the first visit a detailed history and clinical examination was recorded. Blood sugar was estimated by the Nelson Somogyi methods, in a fasting state and two hours after breakfast. Other investigations as haemoglobin, ESR, X-ray Chest and urine examination were done routinely, whereas serum lipids, blood urea and E.C.G. were recorded in selected patients. After the initial tests, the required treatment was started along with further check ups at regular intervals for the control of diabetes.

Sex Distribution

Of the total 1192 patients, 677 were males (56.8%) and 515 females (43.2%).

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Age Distribution

As shown in Table I the largest number of patients were between 41 and 60 years of age (58.8%). Three patients (0.5%) were in the group of 0-10 years.

Table I: Age and Sex

Age Group in Years	*Males*	*Females*	*Total*	*Percentage*
0-10 Years	3	—	3	0.5
11-20 Years	7	8	15	1.2
21-40 Years	157	172	329	27.6
41-60 Years	420	282	702	58.8
Over 60 Years ..	90	53	143	11.9
Total:	677	515	1192	100

Duration of Diabetes Mellitus

412 patients (34.5%) came within four weeks of detection for registration in the specialised clinic. 375 patients (31.4%) had been diabetic for a period of four weeks to one year. Table II shows the different time period after which the diabetic patients came for treatment.

Table II: Duration of Diabetes

Duration of Diabetes	*Males*	*Females*	*Total*	*Percentage*
0-4 Weeks	180	232	412	34.5
Over 4 Weeks-1 Year ..	200	175	375	31.4
13 Months-3 Years ..	72	77	149	12.4
4-10 Years	100	91	191	16.0
11-20 Years	30	25	55	4.6
Over 20 Years ..	6	4	10	0.8

Past Treatment

A large majority of patients 540 (45.3%) had been treated with oral antidiabetics prior to being examined in the Diabetes Clinic. 413 patients (34.6%) had received no treatment. 81 patients (6.7%) had taken insulin in either the short or long acting form. The other therapies as dietary restrictions alone amounted to 5.9% whereas 34 patients (2.8%) had been under treatment of Hakims (Unani medicine) and Homeopaths. 53 patients (4.4%) could not state with surety if they had received any antidiabetic treatment or not.

Table III: Past Treatment

Past Treatment	*No. of Patients*	*Percentage*
Oral Antidiabetic	540	45.3
No Treatment	413	34.6
Insulin	81	6.7
Diet Only	71	5.9
Not Sure	53	4.4
Hakims and Homeopaths	34	2.8

As seen from Table IV a fairly large number of patients, 452 (38%) were asymptomatic and were accidentally discovered to be diabetics. A routine blood and urine examination before an operation, during pregnancy, for life insurance purposes or during an illness, revealed diabetes.

375 of the patients from the series (31.5%) presented with the classical features of polyuria and polydipsia. Six of these patients had developed ketoacidosis and had to be hospitalized for metabolic control.

Table IV: Mode of Presenting Symptoms leading to the Detection of Diabetes

Presenting Symptoms	*No. of Patients*	*Percentage*
Accidentally Discovered	452	38
Polyuria Polydipsia	375	31.5
Generalised Aches	125	10.4
Pain in Legs	52	4.4
Weight Loss	47	4.0
Recurrent Boils	43	3.6
Pruritus Genitalia	41	3.4
Delayed Healing of Wound ..	37	3.1
Burning Feet	9	0.75
Ants in Lavatory	9	0.75
Weight Gain	2	—

125 patients (10.4%) went to their family physicians with a complaint of generalized aches and a feeling of being unwell. 52 patients (4.4%) gave a history of cramps and pain in the calf muscles, whereas 47 (4.0%) had a significant loss of weight which caused them to get their urine examined. 41 females (3.4%) consulted a gynaecologist due to pruritus vulvae. 43 subjects (3.6%) had a recurrent skin infection as boils and abscesses and 37 (3.1%) had a urine analysis due to delayed healing of a wound. 9 patients (0.75%) came with a suspicion of diabetes due to collection of ants in the lavatory. Another 9 presented with burning feet.

Family History

A positive family history was available in 427 (35.8%) in the series.

Discussion

The reported incidence of diabetes mellitus in the west is higher in females. A ratio of 60% females to 40% males was determined by the Health Interview Survey carried out in United States from July 1965 to June 1966 (McDonald 1968). In the present series an evidence of 57% males and 43% females was encountered which compares favourably with a study in India where 66.7% were males and 33.3% females (Patel et al., 1966).

The age group showing the highest incidence of Diabetes in the present study was between 41 to 60 years. In the western world this lies between 50 and 64 years (McDonald 1968).

A survey carried out in India showed the largest number of cases to be between 41 and 50 years (Patel et al., 1966). Diabetes is encountered at an earlier age in the tropical countries.

The common presenting symptoms reported by Joslin and Root (1971) were polyuria (73%), polydipsia (67%) and loss of strength (64%). In this series, those discovered accidentally, had the highest percentage (38%) with polyuria and polydipsia following closely (31.0%). This shows that minor vague symptoms are ignored by the patient till another incidental cause leads to the detection of diabetes.

A 75% positive family history in diabetics with an average duration of 40 years was recorded by Joslin (Joslin and Root, 1971). The low incidence of a positive family history in our series could be attributed to the ignorance regarding the cause of death in the family members and ancestors.

Conclusion

After analyzing 1192 diabetics of Karachi it could be concluded that diabetes mellitus is prevalent more in males than in females and appears at a comparatively earlier age than in the western countries. A large number of patients being asymptomatic or having vague symptoms are not investigated and may live with hyperglycaemia for long periods till a routine examination or a complication reveals the metabolic disturbance. This calls for a regular screening programme for diabetes mellitus which is being carried out in various countries. The Diabetes Association of greater Cleveland, U.S.A. conducted a mass screening programme from 1966 to 1970 and 4.1% positive tests were obtained (Genuth et al., 1976). Two metropolitan English surveys yielded a result of 2.5% and 4% positive screenees (Sharp et al., 1964). An early diagnosis and stabilization of diabetics may protect them from the hazards of complications.

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