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RESEARCH ARTICLE

STUDY OF CLINICAL PROFILE AND COMPLICATIONS IN YOUNG DIABETIC PATIENTS

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ABSTRACT

Diabetes is one of the common developing condition in young age now-a-days. This study is done to study the clinical profile, complications, treatment as well as prognosis of diabetes in young age group by taking 100 young diabetics as a study sample.

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INTRODUCTION

Diabetes Mellitus is a syndrome with disordered metabolism and inappropriate hyperglycemia due to either a deficiency of insulin secretion or to a combination of insulin resistance and inadequate insulin secretion to compensate[1]. There is an alarming increase in the prevalence of diabetes world over, especially in developing countries. With the recent advance in medicine, early detection of diabetes among people at high risk in possible. Hence other number of young diabetic patients has increased all over the word. Among the two main classes of Diabetes, Type 1 Diabetes unusually occurs in the young and Type 2 Diabetes in the middle aged and the old. This fact remaining, about 38% of type 2 Diabetes is diagnosed below the age of 40 years and in 4.8% is diagnosed below the age of 25 years[3]. This has resulted from a drastic change in lifestyle in both adults and children due to Westernization with a frightening increase in the incidence of physical inactivity, unhealthy food habits and obesity in children andadolescence. After the beginning of insulin era, lifespan of young diabetes patients has considerably increased Apparently this has led to development of chronic complication of Diabetes in young patients. This can also be due to the increase in number of patients diagnosed as Type 2 diabetes in youth. Thus it will be very interesting to study young diabetes patients.

Aims and Objective

- To study diabetes mellitus in younger group of patients. its clinical Presentation , acute and chronic complications
- To Study clinical course of diabetes mellitus in young patients
- To Classify Patient as Type 1 or 2 diabetes mellitus
- To evaluate the involvement of other systems of body, whether or Not in relation with their diabetes mellitus
- To assess the clinical management of such patients in order to seek solutions, if any

METHODOLOGY

The material of this study comprised of a total 100 patients (including type 1 and type 2) all between 15 to 40 years of age admitted at C.U. Shah medical college and hospital, Surendranagar during the period of june 2017 to may 2018. A careful detailed history was elicited in each case and recorded in a specially prepared proforma. Detailed general examination and through systemic examination was carried out in each and every patient to know the involvement of other systems of the body, whether or not in relation with Diabetes Mellitus or its complications. Diagnosis of Diabetes was based on the Revised Diagnostic Criteria issued by National Diabetes Data Group and the World Health Organization.

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Inclusion criteria

- Symptoms of Diabetes plus-Random Blood Glucose concentration more than 200 mg/dl
- Fasting plasma glucose more than 126mg/dl
- 2 hour plasma glucose more than 200 mg/dl during an oral glucose tolerance test.
- HbAIC >/ 6.5%

Exclusion criteria

Diabetic patients above the 40 years of age and below 15 years of age were excluded from the study.

OBSERVATIONS

Table 1. Age distribution of patients in study

Age Group (yrs)	No: patients	Percentage
15-20	21	21
21-25	22	22
26-30	20	20
31-35	18	18
36-40	19	19

Table 2. Sex distribution of patients in study

Sex	No: of patients	Percentage
Male	51	51
Female	49	49

Table 3. Type of diabeteus

Type	No: of Patients	Percentage
Type 1	82	82
Type 2	18	18

Table 4. Sex distribution of type 1 and type 2 patients

Sex	Type 1	Type 2	Total
Male	44	7	51
Female	38	11	49

Table 5. Body mass index of patients

BMI (kg/m2)	Type 1	Type 2	Total
<25	79	2	81
>25	3	16	19

Table 6. Duration of diabetes in patients in present study

Duration of Diabetes	No: of Patients	Percentage
1-5	19	19%
6-10	20	20%
11-15	19	19%
16-20	22	22%
21-25	15	15%
26-30	5	5%

Table 7. Family history of patients in the present study

Family History	No: of Patients	Percentage
Positive	19	19%
Negative	81	81%

Table 8. General examination of selected subjects

General Examination finding	No: of patients
Pallor	9
Lymphadenopathy	3
Clubbing	0
Icterus	0
Acanthosis nigricans	1

Table 9. Symptomatology of patients in study

Symptoms	No. Of patients
Polyurea/ polyphagia/polydipsia	32
Wt. Loss	12
Abdominal pain	24
Vomiting	24
Headache	22
Burning micturition	13
Visual disturbances	5
Burning foot	7
Breathlessness	10

Table 10. Mode of presentation of patients in study

Mode of presentation	No: of patients	Percentage
Classic picture with DKA	26	26%
Hypoglycemia	5	5%
Skin infections	6	6%
Respiratory infections	5	5%
Visual disturbances	5	5%
Renal problems	8	8%

Table 11. Complication of patients in the study

Complication	No: of patients	Percentage
DKA	26	26%
Hypoglycemia	5	5%
Retinopathy	5	5%
Skin infection	6	6%
Hypertension	5	5%
UTI	13	13%
IHD	2	2%
Tuberculosis	4	4%
Nephropathy	8	8%
Neuropathy	6	6%
CVA	0	0%
Hyper osmolar non-ketotic coma	1	1%

Table 12. Micoroangiopathic complications of patients

Microangiopathic Complications	No. of patients	Percentage
Retinopathy	5	5%
Nephropathy	8	8%
Neuropathy	6	6%

Table 13. Micoroangiopathic complications versus glycemic control

Glycemic Control	Retinopathy	Nephropathy	Neuropathy
Excellent (HbA1c:6.5-7.5)	0	0	0
Good (7.5-8.5)	0	0	0
Fair (8.5-9.5)	0	1 (12.5%)	2 (33.33%)
Poor (>9.5)	5 (100%)	7 (87.5%)	4(66.66%)

Table 14. Microangiopathic complications versus duration of diabetes

Duration of diabetes	Retinopathy	Nephropathy	Neuropathy
0-10 yrs	0	0	0
>10 yrs	5 (100%)	8 (100%)	6 (100%)

Table 15. Age of patient versus microangiopathic complications

Age of patient	Total No : of patients	Retinopathy	Nephropathy	Neuropathy
15-20	21	0	1 (12.5%)	0
21-25	22	0	1 (12.5%)	1 (16.66%)
26-30	20	0	1 (12.5%)	0
31-35	18	3 (60%)	1 (12.5%)	3 (50%)
36-40	19	2 (40%)	4 (50%)	2 (33.33)

Table 16. Incidence of hypertension of patients in study

	No : of patients	percentage
With Hypertension	4	4%
Without Hypertension	96	96%

Table 17. Incidence of ishcemic hearth diasease (IHD)

	No : of patients	percentage
With IHD	2	2%
Without IHD	98	98%

Table 18. Mode of treatment of patients

Treatment	No : of patients	percentage
Insulin	82	82%
OHA	14	14%
Both	4	4%

Table 19. Control of Diabetes in Patients

Control of Diabetes	No. of patients	percentage
Excellent (HbA1c:6.5-7.5)	16	16%
Good (7.5-8.5)	11	11%
Fair (8.5-9.5)	15	15%
Poor (>9.5)	58	58%

Table 20. Outcome of patients in study

Outcome	No : of patients	percentage
Improved	99	99%
Expired	1	1%

DISCUSSION AND CONCLUSION

The following conclusions were derived from the present study:

- 51% patients were males and 49% patients were females.
- 82% patients presented with Type 1 DM and 18% patients presented with Type 2 DM
- Type 2 DM patients had a significant association with obesity in these young patients while majority of the type 1 DM patients had lean body status.
- Most patients presented with classic symptoms of polyurea, polyphagia and polydipsia.
- The incidence of inheritance in patients in the study group was less (19%)
- The most common acute complication observed in the present study was Diabetic Ketoacidosis.
- 19% of the patients in the present study had evidence of microangiopathic complication like retinopathy, nephropathy andneuropathy.
- Nephropathy was the most common (8%) microangiopathic complication noted among the studiedpatients.
- Nephropathy as well as the other microangiopathic complications was seen to have a higher incidence with the age of the patient, duration of diabetes and the poor glycemic control of thepatients.
- An increased incidence of cardiovascular complication like coronary artery disease and hypertension was also noted in these young patients, especially the young type 2diabetics.
- Majority of the patients were treated with Insulin alone and the rest with OHA or OHA+ insulin.
- Majority of patients had poor control of Diabetes. 16% patients had Excellent control, 11% had good control, 15% had fair control and 58% had poor control.

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