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SECTION 20. Medicine.

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RETINOPATHY IN DIABETIC PATIENTS

Abstract: *AIMS AND OBJECTIVES: The objective of this study was to determine incidence of retinopathy in diabetic patients so that early management should be done to minimize this complication of diabetes mellitus.*

MATERIALS AND METHODS: In this study 140 diabetic patients were included of either gender having ages of 20-80 years reported in Medical Unit of Bahawal victoria Hospital Bahawalpur, Pakistan from 1st June 2015 to 31th May 2016. Tables and charts used to express percentages, standard deviation and means.

RESULTS: One hundred and forty patients were studied. Out of them 40 were taking insulin therapy and 100 patients were taking oral hypoglycemic. Fifty patients had Diabetic retinopathy with incidence of 35.7%. Among these 50 patients, 45 were having background retinopathy and 5 had proliferative retinopathy including 35(70%) males and 15(30%) females. The incidence of disease was higher in patients with 55 years of age or above with diabetes of duration of 15 years or more.

CONCLUSION: It was concluded from this study that incidence of retinopathy in diabetic patients is very high in our population and it increases with duration of disease. Its incidence is more in patients having IDDM than NIDDM of either gender and of any age group

Key words: *incidence, retinopathy, Diabetic patients*

Language: *English*

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INTRODUCTION

DM is a disease in which there is increases blood sugar level and abnormal carbohydrate, protein and fat metabolism linked with insulin deficiency either absolute or relative deficiency. It is one of the most common endocrinal disorder causing high morbidity and mortality. About 25% of diabetic patients have IDDM and 75% have NIDDM. DM occurs in either sexes males or females in any every group. It affects all organ systems in the body and causes many complications. Its main complications are macro and micro-vascular diseases. These vascular diseases include coronary artery disease, peripheral arterial disease, CVA, retinopathy and diabetic nephropathy. DM causes pathology of eyes in many ways. Most common eye pathology is diabetic retinopathy. It is very common cause of blindness in USA.[1] Diabetic patients are 20 times more susceptible to blindness than non diabetic patients. Incidence of blindness in diabetic patients is 2%.[2] Retinopathy in diabetics has different incidence in different age groups. It also depends on duration of disease. About 10-20 % of simple retinopathy converts to proliferative retinopathy after 10 years of disease and 50% of them develop blindness after 5 years of age. Incidence of retinopathy is higher in IDDM than NIDDM. So proliferative retinopathy more common in patients with IDDM and causes blindness in people with 20-65 years age.[3] Despite many measures taken to control complications in diabetic patients still blindness is very common due to diabetic retinopathy.[4] Aim of this study was to determine incidence of diabetic retinopathy in patients reported in medical out patient doors or admitted in the medical unit.

MATERIALS AND METHODS

This research was done in Medical unit of Bahawal Victoria Hospital Bahawalpur. There were 140 patients having diabetes having varying age

groups, duration of illness, gender and different therapies.

There were three steps in this study

1 History taking from all the cases
2 Examination of eyes done of all the cases
3 Previous records of patients seen for any record of retinopathy

Retinopathy was diagnosed on the basis of given criteria

A- Background retinopathy
1 Closure and dilatation of capillaries
2 Micro-aneurysms
3 Soft or cotton wool exudates
4 Arteriovenous nipping
5 Hard exudates
B- Proliferative diabetic retinopathy
1 formation of new vessels
2 Detachment of retina
3 Hemorrhage of vitreous humor
4 Presence of scarring

Other risk factors of retinopathy were not studied.

RESULTS

The 140 cases having age between 20-80 years were selected for the study. Most of the patients were between the age group of 40-60 years. In 140 cases 80 were males and 60 were females. They were either on insulin or oral hypoglycemic. The duration of disease was 6 months to 20 years. In 140 cases 50 had diabetic retinopathy most of them among 40-60 years of age. Forty five patients were having background retinopathy and 5 cases had proliferative retinopathy. Among them 35(70%) were males and 15(30%) were females. In age group 20-30 years 4 out of 18 had retinopathy. There were 25 cases between 31-40 years of age and 10 out of them had retinopathy. Eight patients out of 25 cases having age 41-50 years had retinopathy. Sixteen cases of retinopathy found out of 40 cases among 51-60 years of age. Among 61-70 years of age 8 out of 12 cases were having retinopathy. In 71-80 years age group, 4 out of 20 cases had retinopathy (Table-1). If we talk about duration of disease then 10 cases out of 60 patients had retinopathy with duration of disease 1-5 years. There were 25 cases with duration of disease 6-10 years and 5 of them had retinopathy. Thirty cases had duration of disease 11-15 years and 20 of them had retinopathy. In 16 years or above duration of disease 15 out of 25 had retinopathy. In 140 cases 40 were on insulin and 15(37.5%) of them had retinopathy (Table-2). Among them 100 were on oral hypoglycemic agents and 35(35%) of them had retinopathy (Table-3). In 140 cases 55 were on regular therapy of diabetes and 20(36.3%) had retinopathy. Among them 85 were on irregular therapy and 30(35.2%) of them had retinopathy (Table-4).

Table-I.

Different age groups and diabetic retinopathy

Age (yrs)	No. of Pts	Pts with Retinopathy (%)
20-30	18	4 (22.2%)
31-40	25	10 (40%)
41-50	25	8 (32%)
51-60	40	16 (40%)
61-70	12	8 (66.6%)
71-80	20	4 (20%)
Total	140	50

Table-II.

Disease-duration and retinopathy in patients

Duration of disease(years)	No. of Pts	Pts having retinopathy
1-5	60	10 (16.6%)

6-10	25	5 (20%)
11-15	30	20 (66.6%)
16 & above	25	15 (60%)
Total	140	50

Table-III.

Retinopathy in patients on insulin therapy or taking oral anti diabetic drugs

Drug used	No. of Pts	Patient with retinopathy
Insulin	40	15 (37.5%)
Oral hypo-glycaemic	100	35 (35%)
Total	140	50

Table-IV

Retinopathy in patients taking regularly antidiabetic drugs and those taking drugs Irregularly

Drug Taking	No. of Pts	Pts with retinopathy (%)
Regular	55	20 (36.3%)
Irregular	85	30 (35.2%)
Total	140	50

DISCUSSION

There is lack of proper information about diabetes and its complications in Pakistan. Main cause of this poor education is lack of facilitis, lack of awareness in community, patients and health workers.There is not proper resource of information and decreased man power. Most common cause of blindness in USA is retinopathy due to diabetes.[1] It is also a major cause of blindness in pakistan. According to a study done in Pakistan in 1981 the prevalence of retinopathy was 2.4% in 1447400 people.[5] There is different prevalence of diabetic retinopathy in different countries. In a study done in Joslin clinic[6], there was 25% incidence of retinopathy due to DM, 7% incidence in those having from less than 10 years, 26% in those having DM from 10-14 years and 63% in those having DM from more than 15 years. According to another study done in Karachi by Dr. Akhtar the incidence of retinopathy was 26%.[7] In another study done in Lahore in 1986 the incidence of diabetic retinopathy was 60%.[8] The prevalence of diabetic retinopathy range from 24-70% in Australia[9], in denmark[10] , in Ireland[11] and USA.[12] according to our study incidence of diabetic retinopathy is 35.7%. our result is similar to other studies done in Pakistan and other countries. Its incidence depends on age of the patient and duration of disease. Maximum incidence of 85% occurs in the patients having age between 30-60 years having duration of disease 15 years or more. These results are same as in other studies done in different countries. Patients having IDDM have higher incidence of retinopathy than NIDDM(37.5% and 35% respectively).patients taking regular treatment had incidence of 36.3% than those taking irregular treatment 35.2%. These figures are comparable to the results of studies done by Pirat[13] and DCCT.[14] Incidence of diabetic retinopathy is relatively lower in those patients taking insuline therapy regularly as compared to those taking oral anti-diabetics irregularly. So compliance with therapy is very important ti avoid complications of diabetes. Most common complication of diabetes is retinopathy which is associated with non compliance of treatment and long duration of disease. Results of our study are similar to other studies done before in Pakistan and in other countries of world. Patients of age more than 50 years of age have higher incidence of retinopathy.

CONCLUSION .

Our community has high number of diabetic patients with retinopathy.It is more in patients having IDDM than NIDDM. Both males and females and all age groups are equally susceptible to diabetic retinopathy.Duration of disease is directly proportional to the incidence of diabetic retinopathy. More duration of disease more incidence of retinopathy.

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