



DIABETIC RETINOPATHY IN CASES WITH ASSOCIATED RENAL DISEASE-A STUDY AT A MULTI SPECIALTY TEACHING CENTER

Nephrology

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ABSTRACT

With the adaptation of the western lifestyle there is a continuous increase in Diabetes Mellitus cases in India. The complications of Diabetes Mellitus can be broadly classified as microvascular and macrovascular complications. Diabetic Retinopathy is one of the microvascular complications of Diabetes Mellitus and a major causes of preventable blindness among the working age group. Diabetic Nephropathy is one of the causes OF preventable renal dysfunction among the working age group. There is evidence that longer diabetes duration of hyperglycaemia ,elevated blood pressure are risk factors for Diabetic Retinopathy. In view of the above said we did a study to evaluate the incidence of Diabetic Retinopathy in cases with renal dysfunction

KEYWORDS

INTRODUCTION

With the adaptation of the western lifestyle there is a continuous increase in diabetes mellitus cases in India. The ever changing life styles, the faster pace of sedentary lifestyle the individuals affected by diabetes mellitus is expected to rise to about 333 million by the year 2025¹ and 592 million by the year 2035.¹

In the Indian scenario this disease is considered to be of epidemic proportions with more than 62 million diabetic individuals currently diagnosed with the disease Due to the increase in the number of early-onset diabetes cases, the diabetic complications are also more due to longer disease duration. India has the highest number of diabetic patients and is considered as the "diabetic capital of the world".² Zimmet defined diabetes mellitus as a chronic metabolic disorder characterized by hyperglycaemia either due to a lack of insulin or due to the presence of factors opposing insulin's actions.³

Fasting blood glucose level above 7 mmol/liter, random blood glucose above 11 mmol/liter, or a two-hour oral glucose tolerance test above 11mmol/liter have been used to diagnose diabetes. HbA1c levels $\geq 6.5\%$ is considered as diabetes.⁴ In 2011, the World Health Organization introduced HbA1c for the detection of diabetes mellitus with a cut-off 48 mmol/mol.⁵ The complications of diabetes mellitus can be broadly classified as microvascular and macrovascular complications. Diabetic retinopathy is one of the microvascular complications of diabetes mellitus and a major causes of preventable blindness among the working age group.⁶ and Diabetic Nephropathy is one that has a causes of preventable renal dysfunction among the working age group. Feng Hua Wang et al in their study stated that longer diabetes duration, hyperglycaemia, elevated blood pressure are risk factors for diabetic retinopathy.⁷ Rema et al conducted a study to determine the prevalence of retinopathy in non insulin dependent diabetes mellitus at a diabetes centre in southern India ,34.1% had evidence of retinopathy of which 30.8% had non-proliferative diabetic retinopath (6.4% had maculopathy and 3.4% had proliferative diabetic retinopathy).⁸ In view of the above said we did a study to evaluate the incidence of diabetic retinopathy in cases with renal dysfunction

materials and methods

The study was cross sectional, descriptive study conducted on patients with type II diabetes mellitus who were attending to the OPD of department of ophthalmology or referred from medicine outpatient department during the study period of 12 months from November 2016 to October 2018 at a Medical College, Bengaluru on 200 patients who met a pre defined criteria.

Result and Observations

The mean age in our study was 55.08years. The mean ages were 52.5 years, 51.73 years, 52.22 years, 56.78 years, and 61.91 years, in the normal ,early NPDR ,moderate NPDR, severe NPDR and PDR. In our

study most cases were males constituting 80.5% of cases., Businessman constituted 53% of the study followed by manual labourers 20%. Most cases were treated with insulin constituting 61.5% of cases.

discussion

A wide spectrum of ocular conditions other than diabetic retinopathy is associated with diabetes. Those on insulin therapy had a higher prevalence of diabetic retinopathy .The glycaemic control and the duration of diabetes mellitus were directly proportional to the degree of diabetic retinopathy There was direct relationship between the degree of retinopathy, nephropathy the glycaemic control and the duration of diabetes mellitus. In the present study there was a linear relationship with duration of diabetes mellitus and the grade of the retinopathy. The overall mean duration of diabetes mellitus in our study was 14. 13 years.45% had very good control of sugars with the glycosylated haemoglobin less than 6.5. 86.65% had a positive family history of diabetes. 25.5% had a normal vision in the right eye without correction , 22.7 % had a normal vision in the left eye without correction, 32% had a normal vision in the right eye with correction, 36% had a normal vision in the left eye with correction.34.5% had findings in the right eye with corneal abrasions and endothelial dystrophy were the commonest seen in 21% - cornea abrasions were seen in 10.5 % and endothelial dystrophy was the commonest seen in 10.5 %.Of the 79 cases 38.5% had findings in the left eye - cornea abrasions were seen in 18 % and endothelial dystrophy was the commonest seen in 10.5 %. Neovascularisation of iris was seen in 4 cases in the PDR group .Two cases had CME and one case had CRVO. 9.5 % had elevated intra ocular pressure in the left eye and 44% had elevated intra ocular pressure in the right eye ,which is one of the contributory factor for glaucoma We recommend that further studies be done on a larger scale in a population based setting

Conclusion

In our study we concluded that It is not enough to only study the prevalence but we need to evaluate the treatment of these diabetic cases and their long term result needs to be addressed . All of diabetic ocular complications can be prevented by early diagnosis and therapy. Therefore, periodic eye examinations are required for the reduction of diabetes-related vision loss.

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