



ORIGINAL RESEARCH PAPER

Ophthalmology

MAGNITUDE AND OCULAR STATUS OF DIABETIC RETINOPATHY (DR) AMONG PATIENTS WITH DIABETES MELLITUS (DM) IN HOSKOTE – A HOSPITAL BASED STUDY

KEY WORDS: Diabetes mellitus, Diabetic retinopathy

| | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------|
| Dr Vaishnavi | Junior Resident, Department of Ophthalmology, MVJ Medical College and Research Hospital. *Corresponding Author |
| Dr Vijay Kumar Srivastava | Professor and HOD Department of Ophthalmology, MVJ Medical College and Research Hospital. |
| Dr Sujatha V | Professor Department of Ophthalmology, MVJ Medical College and Research Hospital |
| Dr Pallavi B A | Associate Professor Department of Ophthalmology, MVJ Medical College and Research Hospital |
| Dr Amudha A | Assistant Professor Department of Ophthalmology, MVJ Medical College and Research Hospital |

ABSTRACT

BACKGROUND: Diabetes Mellitus is one of the biggest healthcare problems in the world with an increasing prevalence among working-class individuals and is a potentially sight threatening complication of Diabetes mellitus. The main objective of the study was to determine the magnitude and clinical status of Diabetic Retinopathy. **METHODS:** 50 patients with uncontrolled diabetes mellitus with an age > or = 30 years, attending the Ophthalmology OPD were evaluated. Visual acuity with Snellen's chart, anterior segment evaluation with slit lamp bio-microscope, and detailed fundus examination with an indirect and direct ophthalmoscope and 90D lens was recorded. **RESULTS:** In a study population of 50 patients with uncontrolled diabetes mellitus, 60% are males and 40% are females. Out of which, 49(98%) patients were found to have diabetic retinopathy. 1(2%) patient was found not to have diabetic retinopathy. 22(44%) patients had >15 years of duration of diabetes mellitus. The proportion of NPDR and PDR was found to be 66% and 32% respectively. Out of this 66%, 2 patients were found to have CSME along with moderate NPDR and among 32%, 1 patient was found to have ADED. **CONCLUSION:** According to this study, the occurrence of Diabetic Retinopathy in patients with uncontrolled Diabetes Mellitus was found to be very high in Hoskote region. Hence, a strong correlation is found between duration of diabetes and diabetic retinopathy.

INTRODUCTION

Diabetes Mellitus is one of the biggest healthcare problems in the world with an increasing prevalence among working-class individuals^{3,6}. The increase in the incidence of Diabetes Mellitus in developing countries is especially concerning⁷. Diabetes Mellitus is strongly associated with microvascular and macrovascular complications causing co-existing Diabetic Retinopathy, Diabetic Peripheral Neuropathy, Diabetic Nephropathy⁴. Diabetic Retinopathy is a potentially sight threatening complication of Diabetes mellitus⁵. Diabetic Retinopathy, which was previously considered to be an only microvascular complication of diabetes, has been recently found to have a neuro-degenerative component as well, making screening of Diabetes at the earliest so crucial⁴. Diabetic Retinopathy is a priority disease in the "VISION 2020" initiative for the global elimination of avoidable blindness³.

AIM AND OBJECTIVE

To determine the magnitude and clinical status of Diabetic Retinopathy.

MATERIAL AND METHODS

SOURCE OF DATA: Patients with uncontrolled diabetes mellitus attending Ophthalmology OPD and includes patients referred by the physicians over a period of 3 months.

STUDY DESIGN: Prospective observational study
Patients presenting to the department of Ophthalmology at MVJ Medical College and Research Hospital with uncontrolled DM are evaluated after obtaining consent. History and systemic examinations were conducted. Visual acuity with Snellen's chart, anterior segment evaluation with slit lamp bio-microscope, and detailed fundus examination with an indirect and direct ophthalmoscope and 90D lens was recorded.

SAMPLE SIZE: 50 patients

STUDY SITE: MVJ Medical College and Research Hospital.

INCLUSION CRITERIA:

- Patients with uncontrolled DM attending the OPD.
- Age: > or = 30 years
- Male and female patients

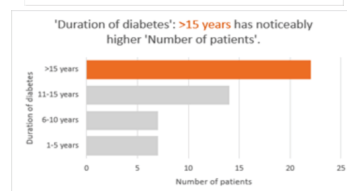
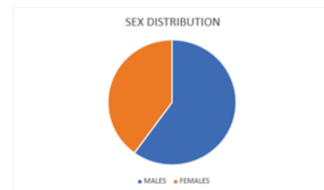
EXCLUSION CRITERIA:

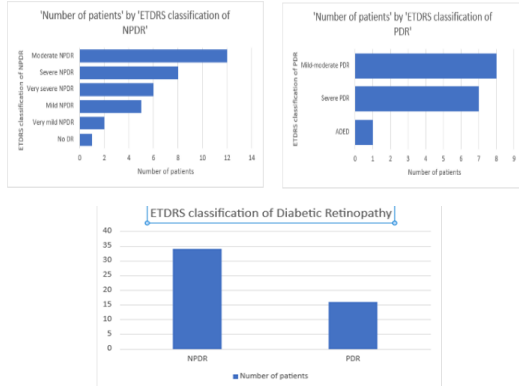
- Patients with Type 1 DM
- DM in pregnancy
- Duration of DM less than 1 year
- Patients with DM along with other co-morbidities
- Cases of ocular trauma

Cases with ocular inflammatory conditions and other retinal conditions.

Patients who have undergone laser treatment for diabetic retinopathy.

RESULTS





DISCUSSION

In a study population of 50 patients with uncontrolled diabetes mellitus, 60% are males and 40% are females. Out of which, 49(98%) patients were found to have diabetic retinopathy. 1(2%) patient was found not to have diabetic retinopathy. 22(44%) patients had >15 years of duration of diabetes mellitus. The proportion of Non-Proliferative Diabetic Retinopathy (NPDR) and Proliferative Diabetic Retinopathy (PDR) was found to be 66% and 32% respectively. Out of this 66%, 2 patients were found to have Clinically Significant Macular Edema (CSME) along with moderate NPDR and among 32%, 1 patient was found to have Advanced Diabetic Eye Disease (ADED).

The prevalence of DM was reported to be 4.6% and 9.75% in two different studies conducted in Yemen.³

A study in Lebanon that had 112 diabetic patients and retinopathy evaluation was conducted by using direct and indirect ophthalmoscopes reported 17% prevalence of DR.⁸

CONCLUSION

According to this study, the occurrence of Diabetic Retinopathy in patients with uncontrolled Diabetes Mellitus was found to be very high in Hoskote region. Hence, a strong correlation is found between duration of diabetes and diabetic retinopathy.

REFERENCES

- Salmon J F. Kanski's Clinical Ophthalmology A Systematic Approach. 9 edition. Elsevier; 2020. Chapter 13, Retinal Vascular Disease.
- Yanoff M, Duker J S. Ophthalmology. 5 edition. Edinburgh: Elsevier; 2019. Chapter 6.22. Diabetic Retinopathy.
- Bamashmus MA, Gunaid AA, Khandekar RB. Diabetic retinopathy, visual impairment, and ocular status among patients with diabetes mellitus in Yemen: A hospital-based study. *Indian Journal of Ophthalmology* 2009;57(4):293-8.
- Rasheed R, Pillai GS, Kumar H, Shajan AT, Radhakrishnan M, Ravindran GC. Relationship between diabetic retinopathy and diabetic peripheral neuropathy – Neurodegenerative and microvascular changes. *Indian Journal of Ophthalmology* 2021;69:3370-5.
- Hamati JN, Das AV, Prashanthi GS, Behera UC, Narayanan R, Rani PK. Factors protecting against diabetic retinopathy in a geriatric Indian Cohort. *Indian Journal of Ophthalmology* 2021;69:3167-72.
- Kadri R, Vishwanath P, Parameshwar D, Hedge S, Kudva AA. Dietary associations with diabetic retinopathy – A cohort study. *Indian Journal of Ophthalmology* 2021;69:661-5.
- Deswal J, Narang S, Gupta N, Jinagal L, Sindhu M. To study the impact of diabetic retinopathy on quality of life in Indian diabetic patients. *Indian Journal of Ophthalmology* 2020;68:848-53.
- Gunaid AA, Hummad NA, Tamim KA. Consanguineous marriage in the capital city Sanaia, Yemen. *J Biosoc Sci* 2004;36:111-21.