



## Correlation of diabetic retinopathy with duration of Diabetes mellitus

Authors

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### Introduction

Chronic complication of diabetes mellitus affect many organ systems. Chronic hyperglycemia results in microvascular and macrovascular complications. .

Diabetic retinopathy is a specific marker of microvascular disease in type 2 diabetes. Furthermore, the fundus examination is inexpensive and is routinely performed for the screening of chronic diabetes complications. Therefore, it is worthwhile to comprehensively study the predictive role of Diabetic Retinopathy for duration for diabetes.

Therefore we conducted this study in order to examine the associations between retinal microvascular changes and duration of diabetes.

### Aims and Objectives

To study correlation of diabetic retinopathy with duration of diabetes.

### Materials and Methods

This prospective observational study was conducted on 100 patients with type 2 Diabetes mellitus with retinopathy attending OPD of MGM Hospital, Kamothe, Navi Mumbai for a period of Two year (January 2016- Oct 2017) to know the underlying disease whether it is new onset or old.

### Methodology

This study was carried out in Tertiary care hospital. In this study 100 patients who fulfilled the inclusion and exclusion criteria and who gave a written informed consent was considered for study. The ethics clearance was obtained from the appropriate authority appointed by the institution (ethics committee).After clinical history thorough clinical examination was done this will consist of general and systemic examination with special emphasis on

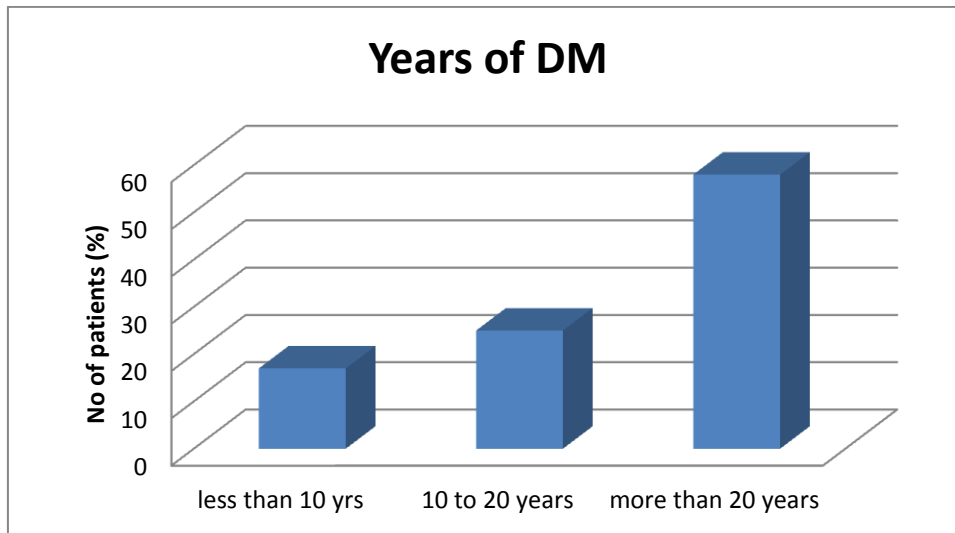
- Fundus examination

### Results

**Table No 1** Years of Diabetes amongst study population

Years of DM		Frequency	Percent
Valid	less than 10 yrs	17	17.0
	10 to 20 years	25	25.0
	more than 20 years	58	58.0
Total		100	100.0

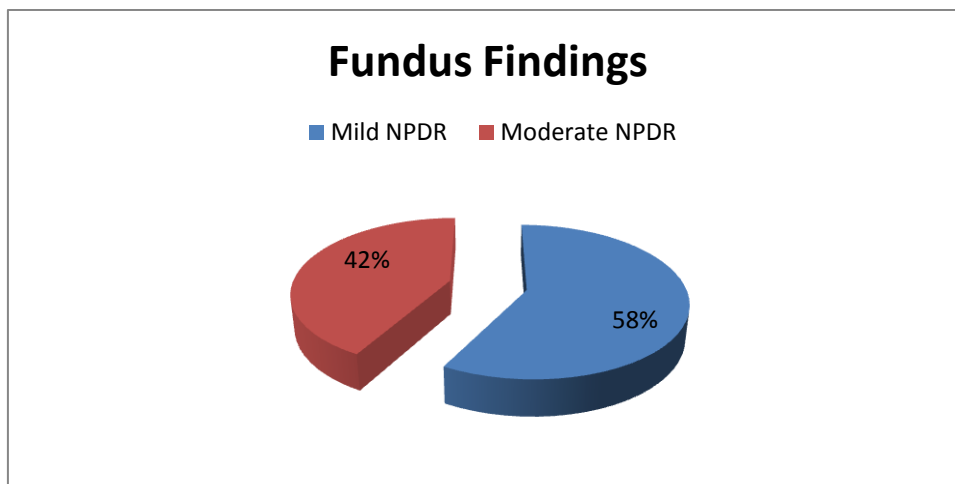
As seen in the table, the most of study population had diabetes from more than 20 years (58%) followed by 10 to 20 years (25%) and less than 10 yrs (17%)



**Table no 2** Fundus Findings amongst study population

Fundus Findings		Frequency	Percent
Valid	Mild NPDR	58	58.0
	Moderate NPDR	42	42.0
	Total	100	100.0

As seen in the table, the most of study population had Mild NPDR (58%) followed by Moderate NPDR (42%)



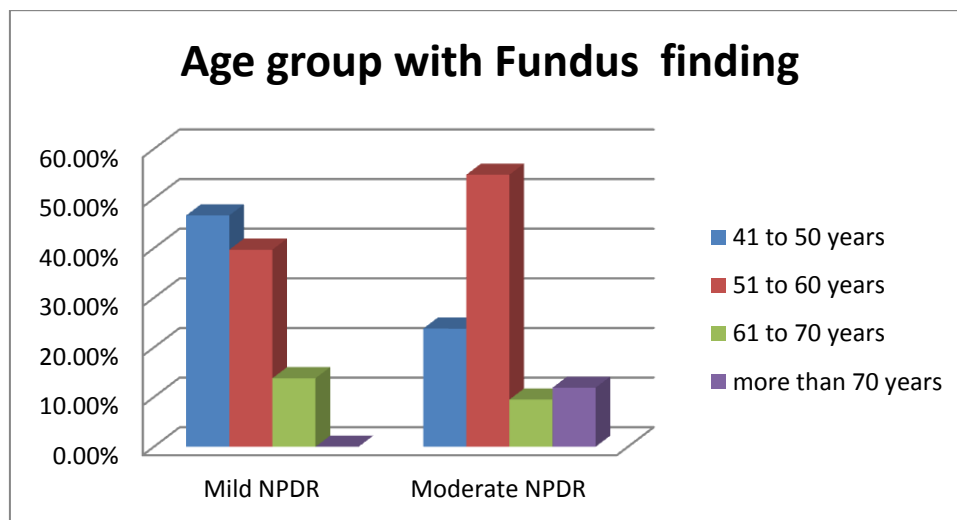
**Table no 3** Comparison of different age group with Fundus finding amongst study population

			Fundus finding		Total
			Mild NPDR	Moderate NPDR	
Age group	41 to 50 years	Count	27	10	37
		%	46.6%	23.8%	37.0%
	51 to 60 years	Count	23	23	46
		%	39.7%	54.8%	46.0%
	61 to 70 years	Count	8	4	12
		%	13.8%	9.5%	12.0%
	more than 70 years	Count	0	5	5
		%	0.0%	11.9%	5.0%
Total		Count	58	42	100
		%	100.0%	100.0%	100.0%

Chi square – 11.88, df-3, P value – 0.008

As seen in the table, Mild NPDR was most commonly observed in 41 to 50 years (46.6%) followed by 51 to 60 years (39.7%) , Moderate

NPDR was most commonly observed in 51 to 60 years (54.8%) followed by 41 to 50 years (23.8%).

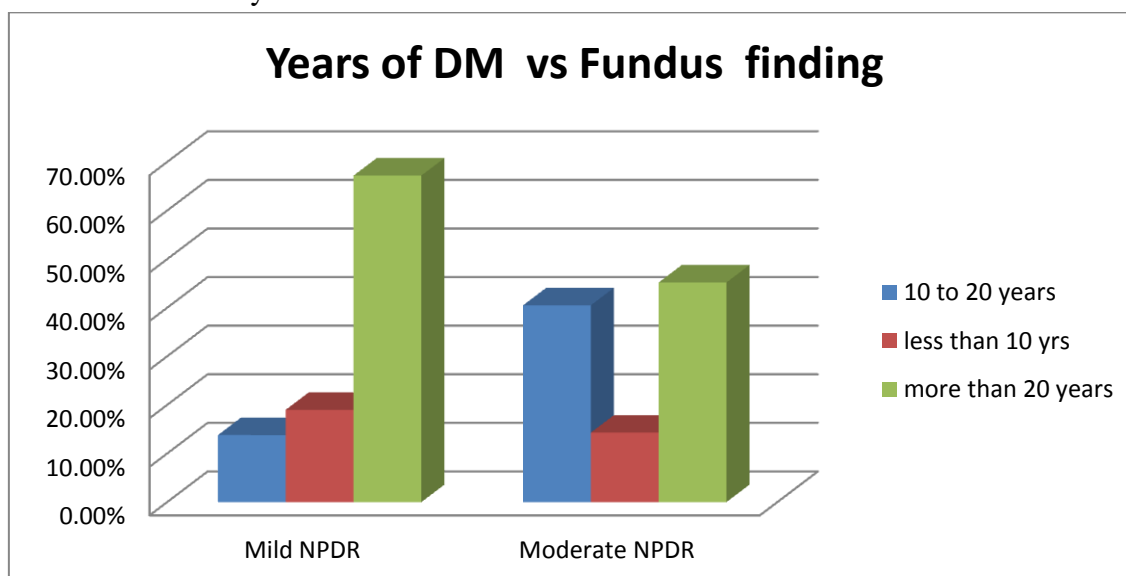


**Table no 4** Comparison of years of DM with Fundus finding amongst study population

			Fundus finding		Total
			Mild NPDR	Moderate NPDR	
years of DM	10 to 20 years	Count	8	17	25
		%	13.8%	40.5%	25.0%
	less than 10 yrs	Count	11	6	17
		%	19.0%	14.3%	17.0%
	more than 20 years	Count	39	19	58
		%	67.2%	45.2%	58.0%
Total		Count	58	42	100
		%	100.0%	100.0%	100.0%

As seen in the table, Mild NPDR was most commonly observed in more than 20 years (67.7 %) followed by less than 10 yrs (19%) , Moderate NPDR was most commonly observed in more

than 20 years (45.2 %) followed by 10 to 20 years (40.5 %) and this difference was statistically significant



### Discussion

Chronic hyperglycemia results in microvascular and macrovascular complications. The microvascular complications like diabetic retinopathy (DR) usually play a critical role in the life of diabetics. In the present study, the most common age group amongst study population was 51 to 60 years (46%) followed by 41 to 50 years (37%) and 61 to 70 years (12%).

In the present study, there was male predominance (58%) amongst study population.

In the present study, the most of study population had Mild NPDR (58%) followed by Moderate NPDR (42%).

In the present study, Mild NPDR was most commonly observed in DM more than 20 years (67.7 %) followed by less than 10 yrs (19%) , Moderate NPDR was most commonly observed in more than 20 years (45.2 %) followed by 10 to 20 years (40.5 %) and this difference was statistically significant .

In the present study, Mild NPDR was observed in equally in male (50 %) and female (50%) and Moderate NPDR was most commonly observed in male (69 %) followed by female (31%).

The retinal vascular system is known to share various anatomical and physiological characteristics with the cerebrovascular and cardiovascular system. It is, therefore, highly likely that patients with diabetic retinopathy have concomitant arteriolar lesions in the cerebrovascular and cardiovascular systems, suggesting that retinopathy may reflect macro- as well as microangiopathy.

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