



VISUAL OUTCOME AFTER RETINAL LASER PHOTOCOAGULATION IN PATIENTS WITH TYPE2 DIABETIS MELLITUS WITH RETINOPATHY

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ABSTRACT

Diabetic retinopathy is the third most important cause for visual impairment. There are approximately 93 million people with Diabetic Retinopathy (DR). Longer diabetes duration and poorer glycemic and blood pressure control are strongly associated with DR.

Diabetic retinopathy is one of the few ophthalmic diseases that have a defined preventive measure to delay progression of the disease and consequent visual loss. The estimated high prevalence of diabetes by 2025 in India is a matter of concern considering the potential for vision loss associated with diabetic retinopathy. This hospital based study is conducted to find out efficacy of retinal photocoagulation as a standalone therapy for arresting progression of diabetic retinopathy and improvement of visual acuity

KEYWORDS :

INTRODUCTION

Approximately 150 million people are estimated to have diabetes throughout the world (2003).¹ Diabetes Mellitus (DM) is an 'iceberg' disease. Although increase in both prevalence & incidence of type II diabetes mellitus have occurred globally, they have been especially dramatic in societies in economic transition, in newly industrialised countries and in developing countries. Estimated 20% of current global diabetic population resides in south-east Asia region.²

Currently retinal photocoagulation remains an effective means of controlling the progression of diabetic retinopathy, maculopathy, and macular edema. Today, laser photocoagulation systems offer a diverse flexible platform to treat diabetic retinopathy and other diabetic disorders.

OBJECTIVES:

- 1) To assess the visual outcome after retinal photocoagulation in patients with diabetic retinopathy in 100 eyes attending opd.
- 2) To study visual outcome in patients at 6 weeks under subgroups such as duration of diabetes, type of diabetic retinopathy (ETDRS classification), type of retinal photocoagulation (focal, grid, panretinal, and combination) after retinal laser photocoagulation.

MATERIALS AND METHODS

100 eyes of 60 patients known cases of type 2 diabetes mellitus, willing to undergo laser therapy and followup over a period of 2 years, at our institute. Prospective study evaluating visual assessment, involving three visits post laser at 1 week, 3 weeks, and 6 week, recorded with help of Snellen's chart (best corrected visual acuity) after laser therapy.

Inclusion criteria:

- Known cases of Diabetes Mellitus type 2.
- Age group 40-70 years.
- Controlled blood sugar levels.
- Patients selected irrespective of sex.

Exclusion criteria:

- Patient with hazy media or any other factors affecting the visual improvement e.g. glaucoma, high refractive errors, mature cataract, uveitis.
- Patients with corneal pathologies.
- females who are pregnant.
- Patients who have undergone same or similar procedures (retinal laser) in past.
- Patients whose current blood glucose levels are uncontrolled.
- Patients undergone vitrectomy/intravitreal injections.
- Juvenile diabetes.

OBSERVATIONS AND RESULTS:

In our study 100 eyes of 60 patients at different stages of diabetic retinopathy were subjected to retinal photocoagulation

Frequency distribution as per duration of diabetes is as follows.

Table No 1: Frequency distribution as per duration of diabetes

Duration	Frequency	Percent
≤ 5	5	8.3
6 to 10 Yrs	33	55.0
11 to 15 Yrs	21	35.0
> 15 Yrs	1	1.7
Total	60	100.0

In our study >50% of patients had diabetes mellitus between 6 and 10 years.

Table No 2: Distribution of study group as per duration of diabetes and sex

Sex	Duration	6 to 10 Yrs	11 to 15 Yrs	> 15 Yrs
	≤ 5			
Male	11.8%	44.1%	44.1%	0.0%
Female	3.8%	69.2%	23.1%	3.8%
Total	8.3%	55.0%	35.0%	1.7%

Table no 3 : Comparison of visual outcome as per duration of diabetes

Duration	Total Eyes Treated with Laser		Outcome at 6 mnths	
(yrs)		Improvement (at 6 weeks)	Static	Worsened
≤ 5	7	2	5	0
6 to 15	91	13	76	2
≥ 16	2	2	0	0
Total	100	17	81	2

Table No 4 : Comparison of visual outcome among different types of retinopathy

Type of Retinopathy	Total Eyes Treated with Laser	Outcome at 6 Wks
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		Improvement (at 6 weeks)	Static	Worsened
Mild NPDR	4	3	1	0
Mod NPDR	48	6	40	2
Severe NPDR	30	7	23	0
PDR	18	1	17	0
Total	100	17	81	2

SUMMARY AND CONCLUSION:

The results of presented collection of 60 patients 100 eyes shows a favourable influence of photocoagulation on the preservation rather than improvement from baseline visual acuity.

Timely focal and grid laser photocoagulation helps in stabilizing the visual acuity in patients with diabetic retinopathy.

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