

ORIGINAL ARTICLE

Ophthalmoscopic Changes of Normal Tension Glaucoma: A Study in Peshawar

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ABSTRACT

Aim: To determine the ophthalmoscopic findings of normal tension glaucoma.

Study design: This is a cross sectional study

Study site: Department of Physiology, Khyber Medical College, Peshawar.

Study period: six months

Sample size: One hundred cases were selected.

Results: In this study, 33(33%) males and 67(67%) females. On direct ophthalmoscopy, in right eye glaucoma, there were 93(93%) cases with cupped discs, while 7(7%) had gross cupping of the discs. In left eye glaucoma, there were 98(98%) cases who had cupped discs, while 2(2%) had gross cupping of the discs.

Conclusion: On direct ophthalmoscopy, there were 93(93%) cases who had cupped discs in right eye glaucoma.

Keywords: Ophthalmoscope examination, open angle glaucoma, normal tension glaucoma,

INTRODUCTION

Ocular Hypertension (OHT) is used for patients with consistently raised intraocular pressure (IOP) with no subsequent damage of the optic nerve. Normal tension or low tension glaucoma is a condition that damages the optic nerve and associated visual field (VF) loss with a normal or low IOP¹.

About 0.5-1% of the people with high pressure might develop glaucoma each year. Its incidence is declining now-a-days although studies have put glaucoma at the second place for causing permanent blindness worldwide. It accounts for <1%. This is probably, because of sophisticated equipments of perimetry and ophthalmoscopy to find and eradicate the disease^{2,3}.

The objective of the study was to determine the ophthalmoscopic findings of normal tension glaucoma.

METHODOLOGY

This cross sectional study was conducted in Physiology Department of the Khyber Medical College Peshawar for a period of six months after approval from IRB. 100 cases fulfilling the inclusion criteria were selected. Sample Technique used was non probability consecutive sampling. Age within 35-65 years with both genders and no secondary reason for glaucomatous neuropathy were included. While optic neuropathy caused by other diseases, like diabetes or tumours, developmental or traumatic diseases of the eye, eyes treated medically, surgically or through laser in the past and cataract bearing eyes were excluded.

Data Collection Procedure: 100 patients fulfilling the inclusion criteria were included. Clinical examination was

done on every patient to observe the presence of glaucoma, type of glaucoma and to measure the intraocular pressure. All this information was recorded on Performa. Data was entered and analyzed by using SPSS version 10.

RESULTS

The detail of results is given in tables 1,2,3,4

Table 1: Age of patients

Age (Years)	N	100
	Mean	51.21
	SD	8.12
	Minimum	35
	Maximum	65
	Range	30

Table 2: Involved eye and IOP

IOP (mmHg)	Right eye	Left eye
N	100	100
Mean	17.15	17.30
SD	1.78	1.94
Minimum	12	12
Maximum	20	20
Range	8	8

Table 3: Direct ophthalmoscopy findings

Direct Ophthalmoscopy	Right eye	Left eye
Cupped disc	93 (93%)	98 (98%)
Gross cupping of disc	7(7%)	2(2%)
Total	100(100%)	100(100%)

Table 4: Direct ophthalmoscopy WRT gender

Direct Ophthalmoscopy	Male	Female	Total
Right eye	Cupped disc	28(84.8%)	65 (97%)
	Gross cupping of disc	5(15.2%)	2 (3%)
	Total	33(100%)	67 (100%)
Left eye	Cupped disc	32 (97%)	66(98.5%)
	Gross cupping of disc	01(3%)	1(1.5%)
	Total	33 (100%)	67(100%)

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DISCUSSION

While 2nd in other parts of the world, glaucoma is the 3rd most common cause of blindness in the USA. It affected about 130,000 Americans³. IOP has a strong relationship with the prevalence and long-term risk of glaucoma. For people with IOP >21mmHg, the risk of developing glaucoma is 16 times more than those with IOP <6mmHg⁴. Being more specific racially, it is found that about one-fourth of all patients of glaucoma in America are African Americans. For Caucasians this prevalence was estimated to be 0.8-3.0%. The prevalence of POAG in people over the age of 40 was 1.7% for Caucasians and 5.6% for African Americans in the Baltimore Eye Survey studies⁵.

In our study, on direct ophthalmoscopy, there were 93(93%) cases who had cupped discs while, 7(7%) had gross cupping of the disc in right eye, and there were 98 (98%) cases who had cupped discs while, 2(2%) had gross cupping of the disc in left eye. Tezel et al⁶ and Kitazawa et al⁷ also observed disc changes in normal tension glaucoma. On SLE with 90D non contact lens, there were 94(94%) cases who had cupped discs while, 6(6%) had gross cupping of the disc in right eye and there were 98(98%) cases who had cupped discs while, 2(2%) had gross cupping of disc in left eye. On gonioscopy with slit lamp, all cases of the right eye glaucoma as well as all cases of the left eye glaucoma had normal open drainage angles.

CONCLUSION

In this study, on direct ophthalmoscopy, there were 93% cases who had cupped discs. Most of the patients were elderly females and 29% cases had positive family history of glaucoma.

Conflict of interest: Nil

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