

Analysis of Presence of Glaucoma Among Patient Visited for Eye OPD At a Tertiary Care Hospital

Rajkumar Gupta

Associate Professor, Department of Ophthalmology,
Rajshree Medical Research Institute, Bareilly, Uttar Pradesh, India.

ABSTRACT

Background: Glaucoma constitutes a broad group of diseases characterized by a common attribute of optic nerve degeneration and retinal ganglion cell (RGC) loss. Hence; the present study was undertaken for assessing the presence of Glaucoma among patients visiting for eye examination.

Materials & Methods: A total of 550 subjects who reported for routine eye examination were enrolled. Complete demographic and clinical details of all the patients were obtained. The diagnosis of glaucoma was usually made clinically and required a comprehensive eye examination, including slit lamp, applanation tonometry, gonioscopy and dilated stereoscopic evaluation of the optic disc and retina. Automated perimetry was obtained if glaucoma was suspected. This established the presence of functional damage and provided a baseline for follow-up. Separate analysis of the suspected Glaucoma patients was done.

Results: In the present study, a total of 550 subjects were analyzed. Glaucoma was present 15.09 percent of the patients. 60.24 percent of the Glaucoma patients and 35.76 percent of the non-Glaucoma patients were of more than 60 years of age. 54.22 percent of the Glaucoma patients and 51.18 percent of the non-Glaucoma patients were males. 59.04 percent of the Glaucoma patients and 22.06 percent of the non-Glaucoma patients had positive history of presence of

co-morbid condition. 30.12 percent of the Glaucoma patients and 11.16 percent of the non-Glaucoma patients had positive family history of Glaucoma. 25.3 percent of Glaucoma patients and 5.35 percent of non-Glaucoma patients had positive history of long-term use of topical corticosteroid eye drops.

Conclusion: Geriatric patients, presence of co-morbid condition, presence of positive family history of Glaucoma and positive history of long-term use of topical corticosteroid eye drops were significant risk factors of Glaucoma.


Keywords: Glaucoma, Examine, Eye.

*Correspondence to:

Dr. Rajkumar Gupta,
Associate Professor,
Department of Ophthalmology,
Rajshree Medical Research Institute,
Bareilly, Uttar Pradesh, India.

Article History:

Received: 11-06-2020, Revised: 07-07-2020, Accepted: 26-07-2020

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2020.6.4.031	

INTRODUCTION

Glaucoma constitutes a broad group of diseases characterized by a common attribute of optic nerve degeneration and retinal ganglion cell (RGC) loss. Due to the multiple etiologies and varying presentations of glaucoma, it is occasionally difficult to identify the disease at an early stage. Glaucoma may remain undiagnosed in communities to the extent of 50%–90%. Poor access to health-care facilities, lack of knowledge among patients, and physician-related factors such as improper training, lack of experience, and instrumentation lead to a failure to diagnose glaucoma. Conversely, studies have found that 15%–50% of glaucoma patients, who were started on antiglaucoma medications, did not meet the criteria of glaucoma. A number of factors are responsible for overdiagnosis.¹⁻³

Glaucoma is one of the major causes of visual loss worldwide. With the introduction of innovative tools for early diagnosis and

newer medications for treatment, decision-making in diagnosis and treatment of glaucoma has become more complex.⁴⁻⁶ Hence; the present study was undertaken for assessing the presence of Glaucoma among patients visiting for eye examination.

MATERIALS & METHODS

The present study was undertaken for assessing the presence of Glaucoma among patients visiting eye OPD at Department of Ophthalmology, Rajshree Medical Research Institute, Bareilly, Uttar Pradesh, India.

A total of 550 subjects who reported for routine eye examination were enrolled. Complete demographic and clinical details of all the patients were obtained. The diagnosis of glaucoma was usually made clinically and required a comprehensive eye examination, including slit lamp, applanation tonometry, gonioscopy and dilated

stereoscopic evaluation of the optic disc and retina. Automated perimetry was obtained if glaucoma was suspected. This established the presence of functional damage and provided a baseline for follow-up. Separate analysis of the suspected

Glaucoma patients was done.

All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Chi-square test was used for evaluation of level of significance.

Table 1: Incidence of Glaucoma

Variable	Number	Percentage
Glaucoma	83	15.09
Total subjects	550	100

Table 2: Risk factors of Glaucoma

Variable	Glaucoma patients (%)	Non-glaucoma patients (%)
Age over 60 years	60.24	35.76
Males	54.22	51.18
Co-morbid condition	59.04	22.06
Positive family history of Glaucoma	30.12	11.16
Positive history of long-term use of topical corticosteroid eye drops	25.3	5.35

RESULTS

In the present study, a total of 550 subjects were analyzed. Glaucoma was present 15.09 percent of the patients. 60.24 percent of the Glaucoma patients and 35.76 percent of the non-Glaucoma patients were of more than 60 years of age. 54.22 percent of the Glaucoma patients and 51.18 percent of the non-Glaucoma patients were males. 59.04 percent of the Glaucoma patients and 22.06 percent of the non-Glaucoma patients had positive history of presence of co-morbid condition. 30.12 percent of the Glaucoma patients and 11.16 percent of the non-Glaucoma patients had positive family history of Glaucoma. 25.3 percent of the Glaucoma patients and 5.35 percent of the non-Glaucoma patients had positive history of long-term use of topical corticosteroid eye drops.

DISCUSSION

Glaucoma describes a group of eye diseases in which there is progressive damage of the optic nerve characterized by a specific pattern of optic nerve head and visual field loss. It can lead to blindness if untreated. With an aging population and an increased prevalence glaucoma and ocular hypertension with age the number of people requiring monitoring for glaucoma will probably outstrip the current capacity within existing hospital-based glaucoma clinics.⁶⁻¹⁰Hence; the present study was undertaken for assessing the presence of Glaucoma among patients visiting for eye examination.

In the present study, a total of 550 subjects were analyzed. Glaucoma was present 15.09 percent of the patients. 60.24 percent of the Glaucoma patients and 35.76 percent of the non-Glaucoma patients were of more than 60 years of age. 54.22 percent of the Glaucoma patients and 51.18 percent of the non-Glaucoma patients were males. 59.04 percent of the Glaucoma patients and 22.06 percent of the non-Glaucoma patients had positive history of presence of co-morbid condition. 30.12 percent of the Glaucoma patients and 11.16 percent of the non-Glaucoma patients had positive family history of Glaucoma. Weinreb RN et al

described current evidence regarding the pathophysiology and treatment of open-angle glaucoma and angle-closure glaucoma. A literature search was conducted using MEDLINE, the Cochrane Library, and manuscript references for studies published in English between January 2000 and September 2013 on the topics open-angle glaucoma and angle-closure glaucoma. From the 4334 abstracts screened, 210 articles were selected that contained information on pathophysiology and treatment with relevance to primary care physicians. The glaucomas are a group of progressive optic neuropathies characterized by degeneration of retinal ganglion cells and resulting changes in the optic nerve head. Loss of ganglion cells is related to the level of intraocular pressure, but other factors may also play a role. Reduction of intraocular pressure is the only proven method to treat the disease. Although treatment is usually initiated with ocular hypotensive drops, laser trabeculoplasty and surgery may also be used to slow disease progression. Primary care physicians can play an important role in the diagnosis of glaucoma by referring patients with positive family history or with suspicious optic nerve head findings for complete ophthalmologic examination.¹⁰

In the present study, 25.3 percent of the Glaucoma patients and 5.35 percent of the non-Glaucoma patients had positive history of long-term use of topical corticosteroid eye drops.

Ichhpujani P et al conducted a study to determine the level of correct knowledge about glaucoma and attitudes toward blindness prevention and treatment and how these factors influence self-care practices among hospital personnel. A random sample of 119 staff members including 23 physicians (nonophthalmologists) and 96 nursing staff were administered a self-designed knowledge, attitudes, practice (KAP) questionnaire about glaucoma. All 119 personnel [34 (28.57%) males; 85 (71.42%) females] were aware of glaucoma. Most physicians (80.76%) and nurses (65.26%) understood that glaucoma was associated with a high intraocular pressure and had an effect on the optic nerve. Twenty-four percent of physicians and nurses did not know that it is important for family members of glaucoma patients to be more concerned

about getting the disease. As regards 'treatment priority' between cataract, glaucoma and diabetic retinopathy; 76.91% physicians and 60% nurses placed glaucoma first. Out of total blindness, stroke or paralysis, cancer, schizophrenia and heart disease, blindness prevention was first priority for 9 (34.60%) physicians and 15 (15.78%) nurses. A recent visit to an eye practitioner ($p = 0.012$) was a significant predictor of knowledge of glaucoma as a blinding disease.¹¹

CONCLUSION

Geriatric patients, presence of co-morbid condition, presence of positive family history of Glaucoma and positive history of long term use of topical corticosteroid eye drops were significant risk factors of Glaucoma.

REFERENCES

1. Nayak BK, Maskati QB, Parikh R. The unique problem of glaucoma: Under-diagnosis and over-treatment. *Indian J Ophthalmol.* 2011;59(Suppl 1):S1-2.
2. Topouzis F, Wilson MR, Harris A, Anastasopoulos E, Yu F, Mavroudis L, et al. Prevalence of open-angle glaucoma in Greece: The Thessaloniki eye study. *Am J Ophthalmol.* 2007;144:511-9.
3. Detorakis E, Symvoulakis E. Over-diagnosed glaucoma: Possible consequences for patients and health care services. *Hippokratia.* 2011;15:381-2.
4. Dandona L, Dandona R, Srinivas M, Mandal P, John RK, McCarty CA, et al. Open-angle glaucoma in an urban population in southern India: the Andhra Pradesh Eye Disease Study. *Ophthalmology.* 2000;107:1702-9.
5. Quigley HA, Broman AT. The number of people with glaucoma worldwide in 2010 and 2020. *Br J Ophthalmol.* 2006;90(3):262-7.
6. Leite MT, Sakata LM, Medeiros FA. Managing glaucoma in developing countries. *Arq Bras Oftalmol.* 2011;74(2):83-84.

7. Vijaya L, George R, Paul PG, Baskaran M, Arvind H, Raju P, et al. Prevalence of open-angle glaucoma in a rural south Indian population. *Invest Ophthalmol Vis Sci.* 2005;46:4461-7.
8. Kumar RS, de Guzman MH, Ong PY, Goldberg I. Does peak intraocular pressure measured by water drinking test reflect peak circadian levels? A pilot study. *Clin Experiment Ophthalmol.* 2008;36:312-5.
9. Vijaya L, George R, Arvind H, Baskaran M, Paul PG, Ramesh SV, et al. Prevalence of angle-closure disease in a rural southern Indian population. *Arch Ophthalmol.* 2006;124:403-9.
10. Weinreb RN, Aung T, Medeiros FA. The pathophysiology and treatment of glaucoma: a review. *JAMA.* 2014;311(18):1901-11.
11. Ichhpujani P, Bhartiya S, Kataria M, Topiwala P. Knowledge, Attitudes and Self-care Practices associated with Glaucoma among Hospital Personnel in a Tertiary Care Center in North India. *J Current Glau Prac* 2012;6(3):108-112.

Source of Support: Nil.

Conflict of Interest: None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882. This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Rajkumar Gupta. Analysis of Presence of Glaucoma Among Patient Visited for Eye OPD At a Tertiary Care Hospital. *Int J Med Res Prof.* 2020 July; 6(4): 132-34. DOI:10.21276/ijmrp.2020.6.4.031