

Prevalence of Primary Open angle Glaucoma in a Hospital Setting in North Karnataka

Kavita Salagar, M. R. Pujari, Annu Joon

¹Department of Ophthalmology, Basaveshwar Teaching and General Hospital, M. R. Medical College, Gulbarga. Karnataka India

Abstract

Aim: The aim of this study is to assess the prevalence of primary open angle glaucoma (POAG) in patients presenting to our hospital in Gulbarga, Karnataka.

Methods:- This was a prospective clinical study done at Basaveshwara Teaching and General Hospital (BTGH), attached to M.R. Medical College, Gulbarga from a period of July 2012 to June 2013. All patients above the age of 40 years presenting to our hospital were worked up in detail for glaucomatous changes. A total of 32,000 patients presented to the ophthalmology OPD in the above mentioned period in BTGH. Of these, 183 patients were diagnosed as POAG. Informed and written consent was taken from all the patients and ethical committee clearance was obtained.

Results: The overall prevalence of POAG in the current study was 0.6%. Majority of the patients were within the age- group 56- 70 years (77.05%). The prevalence was higher in males (65.03%) compared to females. Most of the patients presented with both eye involvement (74.86%).

Conclusion: More than 50% of patients are unaware of the diagnosis. Effective screening of high- risk groups is needed and educating the society about the consequences of the disease, yet its preventable nature is the need of the hour.

Key words: POAG, prevalence of glaucoma, visual field changes

Introduction

Glaucoma is defined as “a progressive optic neuropathy involving characteristic structural damage to the optic nerve and characteristic visual field defects.” [1]. It is a leading cause of vision loss worldwide and is of major public health importance. It is estimated to affect 66 million people worldwide, with at least 6.8 million people bilaterally blind from the condition [2]. Glaucoma is a silent killer of eye. The most commonly occurring type of glaucoma is primary open-angle glaucoma (POAG). As the early stages of glaucoma are often asymptomatic, patients often present late, particularly in developing countries. Once vision has been lost, regardless of the type of glaucoma, it cannot be restored. The best method to detect glaucoma is to perform a comprehensive eye examination for all patients who attend the clinic,

irrespective of the complaints they present with. Early diagnosis and timely management will help prevent/ treat these conditions before they become irreversible [3]. Many large population-based studies have been conducted to determine the prevalence of glaucoma. Most have been carried out in white populations, including studies from the United states [4,5,6]. Studies have also been conducted on Asian population [7]. The purpose of this study was to estimate the prevalence of POAG in general ophthalmic practice in our hospital and compare it with the values observed elsewhere.

Materials and methods

New cases of POAG diagnosed in the department of ophthalmology of BTGH, Gulbarga from July 2012 to June 2013 were identified. History was noted and slit-lamp examination done. The clinical diagnosis was made based on evidence from optic disc appearance, ocular

Address for Correspondences

Dr. Kavita M. Salagar,
C/o Dr. Mallikarjun Salagar
Rutugana Dhanavantri Colony, Kusnoor Road, Gulbarga
E-mail:- dr.kavitasalagar@gmail.com

pressure, and visual field testing done by automated perimetry. For each new POAG case, age, sex and laterality was noted. The study was conducted with the following criteria for 183 patients (366 eyes) of POAG among the total 32000 patients presenting to the OPD.

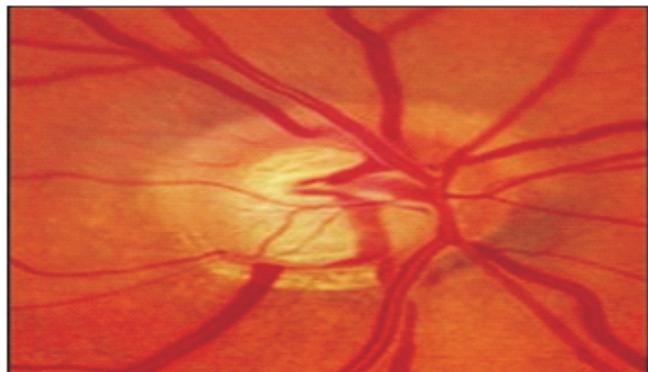


Figure1. Picture of the Fundus

Inclusion Criteria

1. Age more than 40 years
2. IOP >21mm by applanation tonometry
3. Glaucomatous changes of optic nerve head and peripapillary retina
4. Glaucomatous changes in the visual field

The presence of atleast two abovementioned criteria were considered diagnostic of POAG Exclusion criteria

1. Other types of open angle glaucoma (congenital, all other secondary open angle glaucoma)
2. Patients attending glaucoma clinic irregularly
3. Non co-operative patients
4. Advanced lenticular changes hindering the view of fundus

Results

A total of 32000 patients presented to the ophthalmology OPD in the above mentioned period in BTGH. Of these, 183 patients were diagnosed as POAG. Males accounted for 65% of the patients while females contributed to 35%. The higher prevalence of POAG in men was also found in studies done by Dielemans et al [9], Anton et al [14]. The male: female ratio in our study was 1.9:1 which was similar to studies conducted elsewhere.

Table 1. Gender distribution

Gender	No. of cases	%
Males	119	65.03
females	64	34.97

POAG was found to be bilateral in 75% of the patients and unilateral incidence was seen in 25% patients. Right eye was affected before the left in most cases with unilateral presentation.

Table 2. Laterality

Laterality	No. of cases	%
Bilateral	137	74.86
Unilateral	46	25.14
Right	32	17.49
Left	14	7.65

The study included all patients above the age of 40 years. The prevalence of POAG was found to gradually increase with age up to 70 years. 77% of the POAG patients in our study belonged to the age group 56-70 years with maximum prevalence found in 66-70 years age strata. The increasing prevalence of POAG with age was also recorded by Dielemans et al [9], Anton et al [14].

Table 3. Age at presentation

Age group	No. of patients	%
41-45	1	0.55
46-50	7	3.82
51-55	8	4.37
56-60	34	18.58
61-65	50	27.32
66-70	57	31.15
71-75	16	8.74
76-80	4	2.19
81-85	3	1.64
86-90	3	1.64

The overall prevalence of POAG in our study was found to be 0.6%. It is comparatively less than that documented by other authors in their studies done in recent times[5,8-10,12-15].

Table 4. Comparison of POAG prevalence in different areas

Authors	Place of study	Year of publication	POAG prevalence (%)
Tielsch et al ⁵	Baltimore, U.S.A.	1991	1.7
Salmon et al ⁸	South Africa	1993	1.5
Dielemans I et al ⁹	Netherlands	1994	1.1
Cedrone et al ¹⁰	Italy	1997	2.51
Chatterjee et al ¹¹	India	1998	0.34
Kroese et al ¹²	UK	2002	0.9
Iwase et al ¹³	Japan	2004	3.9
Anton et al ¹⁴	Spain	2004	2.1
Cheng et al ¹⁵	China	2013	0.7
Present study	Gulbarga, India	-	0.6

Discussion

The prevalence of POAG in the present study is 0.6%. It is found to be less as compared to other studies. This could be accounted by the large sample size which included all OPD patients above 40 years of age. Majority of the patients in the present study who had POAG belonged to the age group of 56-70years (77%). Most of the patients were males (65%) and presented with both eye involvement (75%).

Conclusion

More than 50% of patients are unaware of the diagnosis of POAG. Effective screening of high-risk groups is needed and educating the society about the consequences of the disease, yet its preventable nature is the need of the hour. If not treated appropriately and at the right time, it leads to irreversible visual loss in both the eyes. Further studies for the same are required and awareness regarding this disease and its morbidity need to be generated among the masses.

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