

A Prospective Study to Evaluate the Incidence of Open Angle Glaucoma Vs Primary Angle Closure Glaucoma in a Tertiary Care Centre.

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ABSTRACT

Background: Prevalence of Primary Open Angle Glaucoma Vs Primary Angle Closure Glaucoma. **Methods:** This study conducted in In this study between 20-60 year old patients included and diagnosed glaucoma. **Results:** In 680 patients , 484 (71.1%) showed PACG and 196 (28.8%) showed POAG (TABLE 3) & 127 (18.6%) patients severely affected with glaucoma, 491 (72.2%) patients moderately affected with glaucoma ,62 (9.1%)patient mildly affected with glaucoma. **Conclusion:** This study conclude that, Primary Angle Closure Glaucoma Is More Severe as Compare To Primary Angle Open Angle.

Keywords: PAOG, PACG, Glaucoma.

INTRODUCTION

Glaucoma is estimated to affect 60.5 million persons worldwide by the year 2010.^[1] The estimated prevalence of glaucoma for India is 11.9 million.^[2] These estimates have been derived from population based studies conducted worldwide. The availability of population based data from India is relatively recent as compared to Western countries. We present a summary of the findings from different population based studies in the country. These have been five populations based studies, three from the state of Tamil Nadu, one from Andhra Pradesh and one from Bengal [Table 1].^[2-6] Data from North India is unfortunately lacking. These studies have been carried out from 1993 to 2003. To our best knowledge at least one more population based study (from Central India) is underway. All these studies have used differing methodology and diagnostic criteria for glaucoma. To improve comparability the prevalence reported by different studies has been age standardized to the population of India (2001 census) where possible. A summary of the study design and diagnostic criteria is provided.

Glaucoma is the second leading cause of blindness in the world.^[7] In chronic diseases such as glaucoma,

it is important to estimate the disease burden in the population to plan treatment strategies. This is mainly done by population based prevalence studies that give us an idea of the proportion of people with disease. If they are re-examined a few years later this gives an estimate of the incidence of disease. Incidence studies give a more direct estimate of disease development and are more likely to provide risk factors for disease over time. However, it should be kept in mind that estimates may differ in different population groups or geographical regions and may also be affected by differing methodologies employed in studies. It is noteworthy that four major studies are from South India and form the bulk of evidence for glaucoma in India.^[8-17] Recently published reports on glaucoma incidence and risk factors from India form an important source of evidence and more reports are likely to follow in near future to better understand the disease in our population.^[18]

MATERIALS AND METHODS

Study period

This study was conducted in Department of Ophthalmology, Teerthankar Mahaveer Medical College, TMU, Moradabad.

Inclusion criteria

All patients between age group of 20year to 60year who were diagnosed with glaucoma from were included in this study.

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Data collected on the basic demographic data, distribution of glaucoma subtypes, measured intraocular pressures, visual acuity, Slit Lamp Examination (SLE), Gonioscopic Examination, Visual Field(VF), Optical Coherence Tomography(OCT), DVT was done in NTG, Disc Examination was done and severity was assessed.

Exclusion criteria

Patients already on glaucoma medical therapy, those with prior ophthalmologic procedures including cataract extraction, laser therapy for glaucoma, or any glaucoma filtering surgery, those who have history of any ocular trauma or intraocular inflammation in past were excluded from this study.

Statistical Analysis

Data were entered and checked primarily with Microsoft Excel 2016. For continuous variables, the mean and the standard deviation were reported.

RESULTS

In total cases of patients, 680 patients suffering from Glaucoma. Among the 680 patients, 339 (49.8%) were males and 341 (50.1%) were female [Table 1]. From 680 patients, 530 (77.9 %) had complain of DOV, 507(74.5%) had complain painful eyes, 278 (40.8%) had headache and 260(38.2%) patients had watering eyes [Table 2].

In 680 patients, 484 (71.1%) showed PACG and 196 (28.8%) showed POAG [Table 3] & 127 (18.6%) patients severely affected with glaucoma, 491 (72.2%) patients moderately affected with glaucoma, 62 (9.1%) patient mildly affected with glaucoma [Table 5].

Table 1: Age distribution of Patients

Age	Male	Female	Total %
20-30	27 (7.9%)	32 (9.3%)	59 (8.6%)
31-40	52 (15.3%)	54 (15.8%)	106 (15.5%)
41-50	102 (30%)	103 (30.2%)	205 (30.1%)
51-60	158 (46.6%)	152 (44.5%)	310 (45.5%)
TOTAL	339 (49.8%)	341 (50.1%)	680

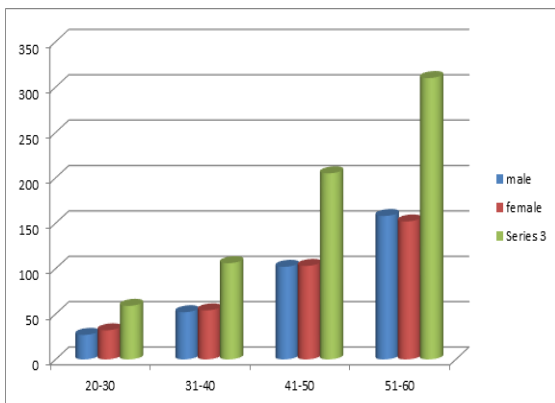


Figure 1: Age distribution of Patients

Table 2: Symptoms Of Patient

Complain	No. Of Patients	%
DOV	530	77.9
PAINLESS	507	74.5
PAINFUL	32	4.7
HEADACHE	278	40.8
WATERING EYE	260	38.2

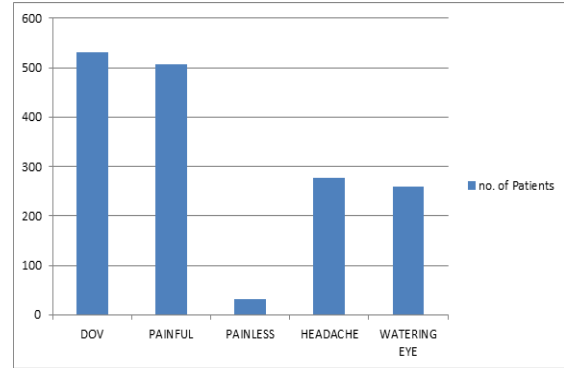


Figure 2: Symptoms of patient

Table 3: Type of Glaucoma

Types	Number of patients	%
PACG	484	71.1
POAG	196	28.8

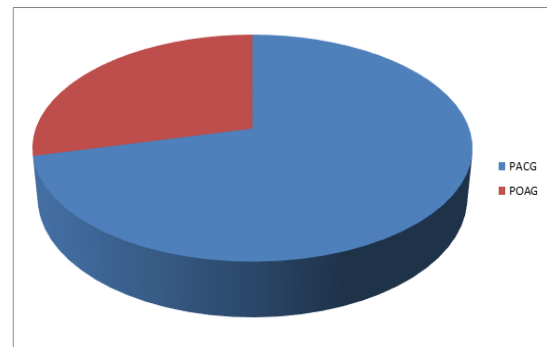


Figure 3: Type of Glaucoma

Table 4: Visual Acuity Affected

Category	Level	No. of patients	
		Right eye	Left eye
Normal	0	215	219
Low vision	1	319	318
	2	101	118
Blindness	3	29	14
	4	8	23
	5	8	7

The average measured vCDR for both eyes was 0.63+/-0.18. the average CCT for both eyes was 495.33+/-49.8. Patients with PACG have severe glaucomatous changes with average IOP 38.3mmHg, and patients with POAG had severe glaucomatous changes with average IOP 37.5mmHg.

Table 5: Grading Of Glucoma

Glucoma	Number	%
Mild	62	9.1
Moderate	491	72.2
Severe	127	18.6
TOTAL	680	

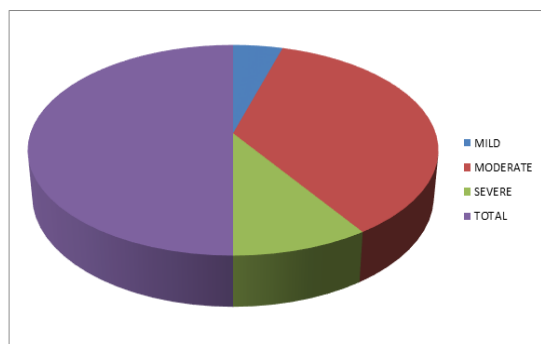


Figure 4: Grading Of Glucoma

DISCUSSION

In our study, mean of the age was 49 years, which is similar to other studies in the North Eastern region of Ghana (53.2 years), Nigeria (52.7 years), Cameroon (53.3 years) and Ethiopia (51.9 years).^[19-23] The percentage of young patients diagnosed at or before 40 years of age was 17.5% (25.73%) in this study. This was slightly higher than the 23.6% reported in the North Eastern region of Ghana.

POAG comprised 2/3 of the glaucoma patients in Qatar. PACG occurred in <15% of the glaucoma patients. In Oman, the proportion of POAG and PACG was equal. A study in western Saudi Arabia, a neighboring country, revealed that the proportion of POAG and PACG was 31% and 25%, respectively.^[24]

In this study mild glaucoma was 9.1%, moderate glaucoma 72.2%, severe glaucoma 18.6% while in comparative study mild glaucoma was 7.3%, moderate glaucoma 73.9%, severe glaucoma 18.6% were seen.^[26]

The challenge of preventing vision loss from POAG is complicated by an earlier onset, a more aggressive course, a higher presenting IOP and vague symptoms leading to rapid visual impairment before treatment can be initiated. The average IOP for subjects in this study was 35.4 mmHg for right eyes and 35.23 mmHg for left eyes and nearly 64% presented with low vision.^[25] These findings are better compared to similar studies in other regions.^[19,20,24]

In our study total male percentage was 49.8% and female percentage 50.1%. This study compares to another study, in which male was 50.29% and female 49.71%.

In our study symptoms of patients DOV (77.9%), painless (74.5%), Painful (4.7%), headache (40.8%) were seen while in another comparative study DOV (79.5%), painful (4.5%), Painless (75%), headache (39.4%) were seen.

In our study symptoms of patients DOV (77.9%), painless (74.5%), Painful (4.7%), headache (40.8%) were seen while in another comparative study DOV

(79.5%), painful (4.5%), Painless (75%), headache (39.4%) were seen.^[26]

Evidence was drawn from a single large outpatient referral center and is not fully representative of the entire area. IOP averages may be under or overestimated. This study excluded ocular hypertension and secondary glaucoma patients. Inter-observer and intraobserver variations in vCDR measurements and IOP assessments were present since different ophthalmologists were involved.

This study did not identify a significant difference in incidence by gender, however other hospital based studies previously mentioned in the North Eastern region of Ghana, Nigeria and Ethiopia have reported nearly a 2:1 male ratio.

CONCLUSION

This study concludes that primary angle closure glaucoma is more severe as compared to primary open angle glaucoma.

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