

## A Study of profile of glaucoma in eastern UP

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### Abstract

**Objective:** To study the profile of glaucoma patients in Eastern UP.

**Method:** Prospective cross sectional study includes 193 cases of age group (more than 30 years). Both male and female were included.

**Results:** The total number of 193 cases was studied. Out of these 106 (54.9%) were male and 87 (45.07%) were female with a male female ratio was 1.21. Primary glaucoma was more common than secondary glaucoma. Among primary glaucoma, primary narrow angle glaucoma (44.4%) was more common followed by primary open angle glaucoma (36.2%). Mean age of POAG patients was (54.2±7.2 years), PNAG was (60.1±11.1 years), NTG was of (64.6±11.8 years), ocular hypertension was of (55±7.2 years) and secondary glaucoma was of (53.2±11.2 years). PNAG was more common in females and rest of glaucoma was common in male. Glaucoma, Profile, Visual impairment, Eastern U.P.

**Conclusion:** Glaucoma causes progressive atrophy of the optic disc resulting in typical defects in the visual field. It can lead to total loss of vision if left untreated. The diagnosis glaucoma has to be made only after comprehensive eye examination and not only on one parameter. Regular follow up is must to access progression which is essential for glaucoma. Glaucoma awareness has to be created among peoples, for them to get examined at early stage to rule out presence of glaucoma. If glaucoma is found, appropriate management is provided to prevent visual function impairment or loss.

**Keywords:** Glaucoma, Profile, Visual impairment, Eastern UP

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### Introduction

Glaucoma is one of the most common neuropathies of the optic nerve. It causes progressive atrophy of the optic disc resulting in typical defects in the visual field. It can lead to total loss of vision if left untreated.

Glaucoma is the leading cause of irreversible blindness worldwide, and the second most common cause of blindness after cataracts.<sup>1,2</sup> It is responsible for 14% of blindness worldwide.<sup>3</sup> It afflicts almost 70 million people, of whom 10% are believed to be bilaterally blind.<sup>2</sup>

Damage to the optic nerve is irreversible and it is imperative to detect glaucoma early so that visual morbidity can be avoided. As it is chronic, insidious disease, the patient requires close follow up throughout life. A good baseline evaluation and record of all parameters- intraocular pressure, perimetry, optic nerve head evaluation and gonioscopy over the year should be available for proper management.

### Material and Method

Prospective cross sectional study conducted in patients presented between January 2015 to December 2015 in the Department of Ophthalmology Nehru Hospital, B.R.D. Medical College, Gorakhpur.

**Inclusion criteria:** Patients of age ≥30 yrs. Patient having Symptoms of gradual painless loss of vision, pain, blurred vision, redness, frequent changes of presbyopic glass, amid dilated oval pupil.

- Symptoms related to eyes but routine cause is not found or routine treatment is not responding.
- History of glaucoma/family history of glaucoma
- Written informed consent was taken before enrolment.

**Exclusion criteria:** Patient not willing for enrolment.

- Anterior segment pathology precluding the visualization of angle e.g. Any corneal opacity.

### Method

The patient's particular was noted in enrolment form. Visual acuity and best corrected visual acuity was taken. Examination of eye in diffuse light was done for any gross abnormality of the anterior segment. Slit lamp examination was done for detailed ocular examination. Intraocular pressure measured by applanation tonometer. Optic disc was examined by 78 D lens regarding size, cup disc ratio, state of neuroretinal rim, any hemorrhage on disc, any peripapillary atrophy. Gonioscopy was done by Goldmanns 3 mirror gonioscope. This help in classifying the glaucoma into various subtypes and to record changes like peripheral anterior synechia,

pigmentation of trabeculum, neovascularization, PXE material etc. Field examination was performed by Humphrey field analyzer.

**Result**

193 cases were studied according to sign and symptoms of glaucoma. Out of these 106 (54.9%) were male and 87 (45.07%) were female with male: female ratio was 1.21 (Table 1). Primary glaucoma was more common (159 patients, 82.38%) (Table 2). Among primary glaucoma PNAG was more common (86 patients, 44.5%) followed by primary open angle glaucoma (70 patients, 36.2%) (Table 3). PNAG was more common in females and rest of glaucoma was common in male (Table 4). Mean age of POAG patients was (54.2±7.2 years), PNAG was (60.1±11.1 years), NTG was of (64.6±11.8 years), ocular hypertension was of (55±7.2 years) and secondary glaucoma was of (53.2±11.2 years) (Table 5).

**Table 1: Sex Distribution**

Gender	Frequency	Percentage
Male	106	54.9
Female	87	45.07

**Table 2: Profile of Glaucoma Patients**

Diagnosis	No.	Percentage
Primary glaucoma	159	82.3
Secondary glaucoma	32	16.5

**Table 3: Distribution of patients according to diagnosis**

S N	Diagnosis	N(%)
1.	Ocular hypertension	2(1.03)
2.	PNAG	86(44.5)
3.	POAG	70(36.2)
4.	Secondary glaucoma	32(16.5)
5.	Normal tension Glaucoma	3(1.55)

**Table 4: Distribution of cases according to gender**

SN	Diagnosis	Total	Males (n=106)		Females (n=87)		Significance	
			No.	%	No.	%	$\chi^2$	P
1	Ocular hypertension	2	2	100.0	0	0.0	0.020	0.8864
2.	PACG	86	34	39.5	52	60.4	13.504	<0.001
3.	POAG	70	48	68.6	22	31.4	11.035	<0.001
4.	Secondary glaucoma	32	20	62.5	12	37.5	0.295	0.5873
5.	Normal tension Glaucoma	3	2	66.6	1	33	0.167	0.6823

**Table 5: Distribution of cases according to age**

SN	Diagnosis	No.	Mean	SD	Median	Min	Max
1.	Ocular hypertension	2	55	7.2	56.5	55	59
2.	PNAG	86	54.2	11.4	55.0	31	80
3.	POAG	70	60.1	11.1	57	30	82
4.	Secondary glaucoma	32	53.2	11.2	54	32	70
5.	Normal tension Glaucoma	3	64.6	11.8	58	60	81

**Discussion**

Glaucoma is a major health problem. It is a silent killer of vision.

In the study of 193 patients, 106(54.9%) were males and 87 (45.07%) were females. The male to female ratio was 1.21.

In our study we found that Primary angle closure glaucoma is more common(44.5%).

A study by Palimker *et al.* showed the prevalence of Glaucoma was 3.68% in district of Chhattisgarh. The percentage of Primary Open Angle Glaucoma was 13.1%, Primary Angle Closure Glaucoma was 21.29%, Secondary Glaucoma was 21.2%, Ocular Hypertension was 14.5%<sup>4</sup>.

PACG was found more common in females in our study as women have been noted to have shorter eyes and anterior chamber depths 0.1-0.2 mm shallower than men<sup>5,6</sup>. Various studies found that PACG to be more common in females<sup>7,8,9</sup>.

Patients of POAG were mostly male in our study since POAG causes only mild discomfort of vision<sup>10,11</sup> and usually females do not come early for such vague symptoms in our scenario. No consistent association with POAG and gender has been reported<sup>11</sup>.

PACG was more prevalent in age group between 40-70 years with mean age group was 54 years in our study. The prevalence of angle closure glaucoma increases substantially with age as lens thickness increases with age, and

may be an important explanation for the progressive shallowing of the anterior chamber and increased prevalence of PACG observed in older age groups<sup>12</sup>.

Few studies found PACG was more prevalent in 6<sup>th</sup> and 7<sup>th</sup><sup>13,14</sup> decade. Age of patients with normal tension glaucoma ranged from 60-81 years with a median value of 58 years in our study and various studies found incidence of NTG in 7<sup>th</sup> decade<sup>14,15</sup>.

Age group of POAG was 30-82 years with mean age of 60.1 years in our study. The prevalence of POAG increases with age after 50years. **In a study in Philippines** found that mean age of POAG was 55.2%.<sup>13</sup>

### Conclusion

Glaucoma causes progressive atrophy of the optic disc resulting in typical defects in the visual field. It can lead to total loss of vision if left untreated. The diagnosis glaucoma has to be made only after comprehensive eye examination and not only on one parameter. Regular follow up is must to access progression which is essential for glaucoma. Glaucoma awareness has to be created among peoples, for them to get examined at early stage to rule out presence of glaucoma. If glaucoma is found, appropriate management is provided to prevent visual function impairment or loss.

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