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ORIGINAL ARTICLE

Assessment of Profile of glaucoma among a known population: A correctional study

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ABSTRACT:

Background: The present study was conducted for assessing the profile of glaucoma among a known population. **Materials & methods:** A total of 50 glaucoma patients were enrolled. Complete demographic and clinical details of all the patients was obtained. The criteria for inclusion in the present study included: intraocular pressure (IOP) more than 22 mmHg on two or more separate occasions and/or optic nerve head changes suggestive of glaucoma. Standard definitions for various glaucoma subtypes were used for diagnosis. An intraocular pressure (IOP) of 22 mmHg or more was considered abnormal. **Results:** Reduced vision, headache and eye ache was seen in 46 percent, 36 percent and 32 percent of the patients respectively while haloes, burring attach and frequently change of glasses were seen in 30 percent, 30 percent and 28 percent of the patients respectively. Primary open angle glaucoma (POAG), Primary Angle Closure Glaucoma (PACG), Juvenile Open Angle Glaucoma (JOAG) and Normal tension glaucoma (NTG) were seen in 36 percent, 30 percent, 24 percent and 10 percent of the patients respectively. Non-significant results were obtained while correlating the type of glaucoma with gender-wise distribution of patients. **Conclusion:** POAG and PACG were the predominant form of glaucoma. This is quite important because PACG, may be amenable to laser or surgical therapy if detected in a timely manner.

Key words: Glaucoma, Intraocular pressure

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INTRODUCTION

The glaucoma are a group of optic neuropathies characterized by progressive degeneration of retinal ganglion cells. These are central nervous system neurons that have their cell bodies in the inner retina and axons in the optic nerve. Degeneration of these nerves results in cupping, a characteristic appearance of the optic disc and visual loss. The biological basis of glaucoma is poorly understood and the factors contributing to its progression have not been fully characterized.[1-3]

Although glaucoma frequently occurs without an elevation of intraocular pressure, the disease is nonetheless classified according to anterior-segment variations that can elevate intraocular pressure. The anterior segment of the eye has its own circulatory system, which nourishes the crystalline lens and cornea, both of which lack a blood supply. Aqueous humor, produced by the ciliary body, circulates throughout the anterior chamber and drains through the trabecular meshwork in the iridocorneal angle, which is the angle formed by the iris and cornea. Elevated intraocular pressure does not result from increased aqueous humor production but rather from reduced aqueous outflow.[4-6] Hence; the present study was conducted for assessing the profile of glaucoma among a known population.

MATERIALS & METHODS

The present study was conducted for assessing the profile of glaucoma among a known population. A total of 50 glaucoma patients were enrolled. Complete demographic and clinical details of all the patients was obtained. The criteria for inclusion in the present study included: intraocular pressure (IOP) more than 22 mmHg on two or more separate occasions and/or optic nerve head changes suggestive of glaucoma. Standard definitions for various glaucoma subtypes were used for diagnosis. An intraocular pressure (IOP) of 22 mmHg or more was considered abnormal. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

RESULTS

Mean age of the patients was 36.2 years with 64 percent of the patients being females and 58 percent of the patients being of urban residence. Reduced vision, headache and eye ache was seen in 46 percent, 36 percent and 32 percent of the patients respectively while haloes, burring attach and frequently change of glasses were seen in 30 percent, 30 percent and 28 percent of the patients respectively. Primary open angle glaucoma (POAG), Primary Angle Closure Glaucoma (PACG), Juvenile Open Angle Glaucoma (JOAG) and Normal tension glaucoma (NTG) were seen in 36 percent, 30 percent, 24 percent and 10 percent of the patients respectively. Non-significant

results were obtained while correlating the type of glaucoma with gender-wise distribution of patients.

Table 1: Demographic data

Demographic profile	Number	Percentage
Males	18	36
Females	32	64
Rural residence	21	42
Urban residence	29	58
Mean age (years)	36.3 years	

Table 2: Clinical profile

Clinical profile	Number	Percentage
Reduced vision	23	46
Headache	18	36
Eye ache	16	32
Haloes	15	30
Blurring attack	15	30
Frequently change of glasses	14	28
Others	10	20

Table 3: Types of glaucoma

Types	Number	Percentage
POAG	18	36
PACG	15	30
JOAG	12	24
NTG	5	10

DISCUSSION

Glaucoma refers to a heterogeneous group of diseases whose common clinical denominator is an excavation of neuroretinal rim tissue located in the intrascleral portion of the optic nerve. The optic nerve is a white matter tract with intrascleral, retrobulbar, intracanalicular, and intracranial segments. Only the intrascleral portion of the optic nerve is available for direct clinical inspection. Glaucomatous changes in the intrascleral portion of the optic nerve were appreciated soon after Hermann von Hemholtz invented the ophthalmoscope in 1850 and these changes seemed intuitively related to elevated intraocular pressure (IOP). Glaucoma affects more than 70 million people worldwide with approximately 10% being bilaterally blind, making it the leading cause of irreversible blindness in the world. Glaucoma can remain asymptomatic until it is severe, resulting in a high likelihood that the number of affected individuals is much higher than the number known to have it.[7-10]Hence; the present study was conducted for assessing the profile of glaucoma among a known population.

Mean age of the patients was 36.2 years with 64 percent of the patients being females and 58 percent of the patients being of urban residence. Reduced vision, headache and eye ache was seen in 46 percent, 36 percent and 32 percent of the patients respectively while haloes, burring attach and frequently change of glasses were seen in 30 percent, 30 percent and 28 percent of the patients respectively. In a previous study conducted by Das et al, authors studied the clinical profile and distribution of various subtypes of glaucoma in a referral practice in North India.Primary angle closure glaucoma (PACG) was the most common glaucoma subtype. The primary open angle glaucoma (POAG) to the PACG ratio was 37:63. Chronic angle closure glaucoma (CACG) was the most common PACG subtype. The majority of CACG cases were relatively asymptomatic. Male dominance was seen for POAG, juvenile open angle glaucoma (JOAG), CACG, normal tension glaucoma (NTG) and secondary glaucomas. Female dominance was seen for ocular hypertension (OHT), acute or intermittent ACG and developmental glaucomas. The mean age in years at presentation was POAG:60.54 years (males 61.54 years, females 59.01 years) and PACG: 55.13 years (males 57.25 years, females 53.60). The three common secondary glaucomas were: glaucoma secondary to adherent leucoma, aphakic and pseudophakic glaucomas and traumatic glaucomas. Advanced glaucoma was detected in 42 to 53% of patients and bilateral blindness in 8 to 14% of patients in various subtypes. Compared to Caucasians, glaucoma patients in North India seem to present nearly a decade earlier and the disease is more advanced at presentation.[9]

Primary open angle glaucoma (POAG), Primary Angle Closure Glaucoma (PACG), Juvenile Open Angle Glaucoma (JOAG) and Normal tension glaucoma (NTG) were seen in 36 percent, 30 percent, 24 percent and 10 percent of the patients respectively. Non-significant results were obtained while correlating the type of glaucoma with gender-wise distribution of patients. In another similar study conducted by Gadia R et al, authors studied the current profile of secondary glaucomas for their incidence and to identify risk factors.Of 2997 referred patients, 2650 had glaucoma or were glaucoma suspects. Of all glaucoma patients or glaucoma suspects, 579 patients (21.84%) had secondary glaucoma. Age distribution was as follows: 25% were between 0-20 years; 27% were between 21-40 years; 30% were between 41-60 years and 18% were >60 years. The male female ratio was 2.2. Frequent causes of secondary glaucoma were post - vitrectomy 14%, trauma 13%, corneo-iridic scar 12%, aphakia 11%, neovascular glaucoma 9%. Post-vitrectomy glaucoma eyes had vitreous substitutes in 83% cases of which 66% eyes had retained silicone oil for more than three months. Vision ≤20/200 was present in 63% eyes, 57% eyes had baseline IOP > 30 mm Hg. Of all traumatic glaucoma patients, 71% cases were <30 years of age. Fifty per cent had baseline IOP of >30 mm Hg and vision ≤20/200.Most patients with secondary glaucoma have poor vision (≤20/200) with high IOP and advanced fundus changes at presentation.[10]Al Obeidan SA et al, in another similar study, reported the pattern of glaucoma among Saudi patients. A total of 2296 eyes of 1236 patients were

included. Primary angle closure glaucoma (PACG) was the predominant type (46.6%) followed by primary angle closure (PAC) (17.2%), then primary open angle glaucoma (POAG) (12.8%), and secondary glaucoma (13%). Other types including (normal tension glaucoma (5.9%), childhood glaucoma (2.6%), and juvenile glaucoma (1.9%)) were also present but of lower prevalence.[11]

CONCLUSION

POAG and PACG were the predominant form of glaucoma. This is quite important because PACG, may be amenable to laser or surgical therapy if detected in a timely manner.

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