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Pattern of Glaucoma in Rural South India

Vijay Kumar Srivastava

Professor & HOD, Dept. of Ophthalmology, MVJ Medical College & Research Hospital, Bangalore

Email: vks_4186@rediffmail.com

Abstract

Introduction: Primary Open Angle Glaucoma causes damage to the fibers of optic nerve which results in permanent visual loss. There may not be any symptoms; this is dangerous because patient may become blind silently. Glaucoma caused by angle closure mechanism causes symptoms and patient seeks medical attendance early.

Aims and Objectives: To study clinical types and Factors associated with the Glaucoma patients.

Methodology: This was cross-sectional study of the patients reporting to ophthalmology outpatient department or admitted in the ophthalmology wards having symptoms suggestive of Glaucoma, at tertiary health care center during the year 2016. The patients underwent detailed elucidation of history and examination. All essential investigations were undertaken. Attention was also paid to monitor treatment response and follow up. As per above criteria total 64 patients were included into the study.

Result: Majority of the Glaucoma patients were from older age group. As age increases the problem of Glaucoma was more prevalent. It was more frequent in Males. More patients had Open angle Glaucoma than close angle or narrow angle. The most common associated factors with Glaucoma patients were Diabetes followed by Systemic Hypertension; Phacomorphic; post Iridocyclitis; Steroid induced Glaucoma; Traumatic Glaucoma.

Conclusion: The problem of Glaucoma was more common in Older age and in males. The most common associated factors with Glaucoma patients were Diabetes followed by Systemic Hypertension; Phacomorphic; post Iridocyclitis; Steroid induced Glaucoma; Traumatic Glaucoma. So these factors should be considered during diagnosis and management of Glaucoma patients.

Keywords: Open angle Glaucoma, Close angle Glaucoma, Steroid induced Glaucoma, Phacomorphic glaucoma.

Introduction

Primary Open Angle Glaucoma (POAG) causes damage to the fibers of optic nerve which results in permanent visual loss. There may not be any symptoms; this is dangerous because patient may become blind silently. Glaucoma caused by angle closure mechanism causes symptoms and patient seeks medical attendance early. Glaucoma is a group of eye diseases which result in damage to the optic nerve and vision loss. An important risk factor is increased intraocular pressure.[1] The disorders has been put in two categories: 'open-angle' and 'closed-angle' (or 'angle closure') glaucoma. The former, Primary Open Angle Glaucoma (POAG) is painless, tends to progress slowly and usually has no symptoms until the advanced stages: whereas the latter, Primary Angle Closure Glaucoma (PACG) can often present acutely with pain, corneal edema blurring of vision, vomiting, necessitating the patient seek early medical attention. Since the Open angle glaucoma may be without symptoms and take away vision silently, screening for this type of glaucoma becomes essential. Loss of vision initially is in the form of loss of peripheral field but finally blindness may result due to no or inadequate treatment.[2] Glaucoma comprises of a group of conditions which ultimately cause damage of optic nerve and visual loss.[3,4] The main mechanism of damage to the optic nerve is raised intraocular pressure (IOP). The other types of glaucoma are Normal tension glaucoma, Secondary glaucoma, Glaucoma due to pseudoexfoliation, Pigmentary glaucoma and Primary juvenile glaucoma. Primary Open Angle Glaucoma (POAG) often has been associated with risk factors like central corneal thickness, optic nerve head structure, age, race, genetic factors and intraocular inflammation. Globally it is estimated that 60 million people suffer from Glaucoma and out of them approximately 8.4 million are already blind. Highest prevalence of POAG is found in Africans.[5] Various studies have shown different prevalences.[6,7,8] In angle closure glaucoma the iris bows in forward direction and causes contact between the iris and peripheral cornea. POAG is often called silent thief of vision because it is symptomless.[9] Globally, glaucoma is the second-leading cause of blindness after cataracts.[10,11] One study has shown that incidence of both POAG and PACG are more in urban than rural area.[12] Although the glaucoma can be traced back in history its identification has been made easy after ophthalmoscope came into being.[13] Although raised intraocular pressure is the most important risk factor in all glaucoma, but in some demography has shown that only 50% of people with primary POAG actually have raised intraocular pressure.[14] Caffeine can increase intraocular pressure in glaucomatous patients, but not in normal individuals.[15] Shallow anterior chamber is usually seen in people from East Asia consequently they have more incidence of angle closure glaucoma.[16] There are various other factors which can cause secondary glaucoma, such as: ocular trauma resulting in angle-recession, prolonged use of steroids; ocular inflammation like uveitis; conditions that compromise blood flow to the eye, as we see in diabetic retinopathy and central retinal vein occlusion (causing neovascular glaucoma).

Aims and Objectives

To study clinical types and Factors associated with the Glaucoma patients.

Methodology

This was cross-sectional study of the patients reporting to Ophthalmology Outpatient Department or Admitted in the Ophthalmology wards having symptoms suggestive of Glaucoma, at tertiary health care center during the year 2016. The patients were diagnosed having glaucoma on basis of: Detailed History, comprehensive ocular examination, related investigations to further confirm the diagnosis of Glaucoma and to monitor its progress as well as response to treatment. As per above criteria total 64 patients were included into the study.

Result

Table 1: Age wise Distribution of the Patients

Age	No.	Percentage
<10	2	3.12
10-20	2	3.12
20-30	7	10.93
30-40	8	12.5
40-50	13	20.31
50-60	14	21.87
>60	18	28.12
Total	64	100

Majority of the Glaucoma patients were from age >60 i.e. (28.12%) followed by 50-60 (21.87%), 40-50 (20.31%), 30-40 (12.5%), 20-30 (10.93%), 10-20 (3.12%), <10 (3.12%). It is clear from table-1 as age increases the problem of Glaucoma is more prevalent.

Table 2: Distribution of the patients as per the Sex

Sex	No.	Percentage
Male	42	65.62
Female	22	34.37
Total	64	100

Majority of the patients were Male 65.62% followed by in Females is 34.37%

Table 3: Distribution of the Patients as per the Gonioscopic study

Gonioscopy Study	Number of patients	%
Open	41	64.06
Narrow/ close	23	35.95
Total	64	100

Majority of the Patients were having Open angle Glaucoma i.e. 64.06% followed by Close angle/ narrow angle in 35.95.

Table 4: Factors associated with the Galucoma Patients

Associated factors	No.	Percentage
Congenital Glaucoma	2	3.12
H/O Iridocyclitis	3	4.68
Systemic Hypertension	9	14.06
Traumatic Glaucoma	2	3.12
Diabetes	12	18.75
Phacomorphic Galucoma	5	7.81
Steroid-induced Glaucoma	2	3.12
No Associated factors	29	45.31
Total	64	100

The most common associated factors with Glaucoma patients were Diabetes (18.75%) followed by Systemic Hypertension (14.06%); Phacomorphic (7.81%); post Iridocyclitis (4.68%); Steroid induced Glaucoma (3.12%); Traumatic Glaucoma (3.12%). In 45.31% no associated factors were detected.

Discussion

Glaucoma is a major global health problem in causing immense damage in terms of economy and causing irreversible damage to vision if not diagnosed and not managed adequately. Glaucoma is not just a single disease but a group of disorder which cause damage to the ganglion cells and optic nerve fibers resulting in permanent loss of vision. Numerous equipment based on advanced technology is available but basic assessment is of optic disc, nerve fiber layer, visual field and IOP; however the only treatable factor is IOP. Hollow & Graham in 1966[17] reported that 33% of glaucoma patients had P.O.A.G and 0.28% of the general population in Britain had glaucoma. In our study majority of the Glaucoma patients were from age >60 i.e. (28.12%) followed by 50-60 (21.87%), 40-50 (20.31%), 30-40 (12.5%), 20-30 (10.93%), 10-20 (3.12%), <10 (3.12%). The present study shows that as age increases the problem of Glaucoma is more prevalent; this could be because of the reason that the associated condition like Hypertension and Diabetes becomes more prevalent as the age increases. Majority of the patients were Male 65.62 % followed by in Females is 34.37%. Majority of the Patients were having Open angle Glaucoma (64.06%); Narrow angle/ angle closure was seen in 35.95% cases. The most common associated factors with Glaucoma patients were Diabetes (18.75%) followed by Systemic Hypertension (14.06%); Phacomorphic (7.81%); post Iridocyclitis (4.68%); Steroid induced Glaucoma (3.12%); Traumatic Glaucoma (3.12%). In 45.31% no associated factors were detected. Our findings are similar to Wasim Rashid et all.[18]

Conclusion

The problem of Glaucoma was more common in older age and in Males. The common associated factors with Glaucoma patients were Diabetes, Systemic Hypertension, Phacomorphic, post Iridocyclitis, Steroid induced and Trauma. So these factors should be considered while diagnosing and managing Glaucoma patients.

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