ORIGINAL ARTICLE

An Analysis of Glaucoma Patients seen at the General Hospital Kuala Lumpur over a Five Year Period : 1986 to 1990

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Summary

The records of all the glaucoma patients seen at the General Hospital Kuala Lumpur over a five year period were analysed. The racial, age and sex distribution of patients with primary open angle glaucoma and primary angle closure glaucoma was determined. The causes of secondary glaucoma were analysed. As no previous records of glaucoma statistics are available in Malaysia, it is hoped that these findings will form an initial mosaic to build on in the future.

Key Words: Glaucoma

Introduction

Statistics regarding the incidence of the various types of glaucoma in Malaysia are not readily available. Glaucoma is the fourth major cause of blindness in Malaysia[1], after cataract, trauma and infection. With better and earlier treatment of infections, glaucoma is threatening to become the third important cause of blindness in Malaysia.

It is for this reason that it was decided to review all the glaucoma patients attending the General Hospital in the federal capital of Kuala Lumpur, which is a national referral centre. This is an attempt to get some idea of the types of glaucoma we are dealing with.

Material and Methods

A retrospective analysis was made of all the new glaucoma patients who attended the Eye Clinic of the General Hospital Kuala Lumpur (GHKL) over a five year period from 1986 to 1990.

Patients with characteristic glaucomatous optic disc cupping and/or visual field loss irrespective of the level of the intraocular pressure (IOP) were diagnosed as having primary glaucoma. Gonioscopy was done to classify them as primary open angle glaucoma (POAG) or primary angle closure glaucoma (PACG). Patients who presented with acute attacks of closed angle glaucoma and who did not have any obvious ocular disease secondarily causing the attack were also included in the PACG group.

Children with congenital or developmental glaucoma were classified as infantile glaucoma. Patients with clinico-pathological changes of glaucoma but without raised IOP (less than 21 mm Hg) were classified as low tension or normotensive glaucoma. Any patient who was found to have an eye condition that was secondarily causing glaucoma was grouped as secondary glaucoma. Patients with primary glaucoma were analysed according to race, sex and age. The main causes of secondary glaucoma were also analysed.

Results

A total number of 68,370 new eye outpatients were seen at the Eye Clinic, GHKL in the five years from

1986 to 1990. There were 37,889 (55.42%) males and 30,481 (44.58%) females. The clinic population of new cases was made up of 26,217 Malays (38.35%), 20,943 Chinese (30.63%), 19,834 Indians (29.01%), and 1376 Others (2.01%).

There were 1,966 patients with one type of glaucoma or other as follows: POAG 907 (46.13%), PACG 590 (30.01%), Normal Tension or Low Tension Glaucoma 128 (6.51%), Infantile Glaucoma 30 (1.53%), and Secondary Glaucoma 311 (15.83%).

In this clinic population of 68,370 new patients, the incidences of the different types of glaucoma were as follows: POAG 1.33%, PACG 0.86%, Normal and Low Tension Glaucoma 0.19%, Infantile Glaucoma 0.04%, and Secondary Glaucoma 0.45%.

Primary open angle glaucoma

There were 907 patients with POAG. The incidence in our clinic population is 1.33%. There were 537 (59.21%) males and 370 (40.79%) females. There were 377 Malays (41.57%), 289 Chinese (31.86%), 222 Indians (24.48%), and 10 Others (2.09%).

The racial breakdown of males with POAG was as follows: Malays 217 (40.41%), Chinese 177 (32.96%), Indians 128 (23.84%) and Others 15 (2.79%).

The racial breakdown of females with POAG was as follows: Malays 160 (43.24%), Chinese 122 (30.27%), Indian 94 (25.41%) and Others 4 (1.08%).

Figure 1 shows the breakdown of POAG patients according to gender and age groups. The majority of patients were between 40 and 69 years old. The range of age was from 27 to 81 years with a mean age of 52.61 years.

Primary angle closure glaucoma

There were 590 patients with PACG. The incidence therefore in our clinic population was 0.86%. There were 350 (59.32%) males and 240 (40.68%) females. There were 206 Malays (34.91%), 226 Chinese (38.31%), 155 Indians (26.27%), and Others 3 (0.51%). The racial breakdown of males with PACG was as follows: Malays 120 (34.29%), Chinese 135 (38.57%), Indians 93 (26.57%), and Others 2 (0.57%). The racial breakdown of females with PACG was as follows: Malays 86 (35.83%), Chinese 91 (37.92%), Indians 62 (25.83%), and Others 1 (0.42%).

Figure 2 shows the breakdown of PACG patients according to sex and age groups. The majority of the patients were between 40 and 69 years old. The range of age was from 28 to 79 years with a mean age of 55.38 years.

Absolute glaucoma

Of the total number of 1966 glaucoma patients in this series, there were 122 patients who had absolute glaucoma in one eye. There were 35 patients who were completely blind in both eyes due to glaucoma.

Secondary glaucoma

There were 311 patients with secondary glaucoma which is 0.45% of the clinic population of new cases. The causes of secondary glaucoma were as follows:

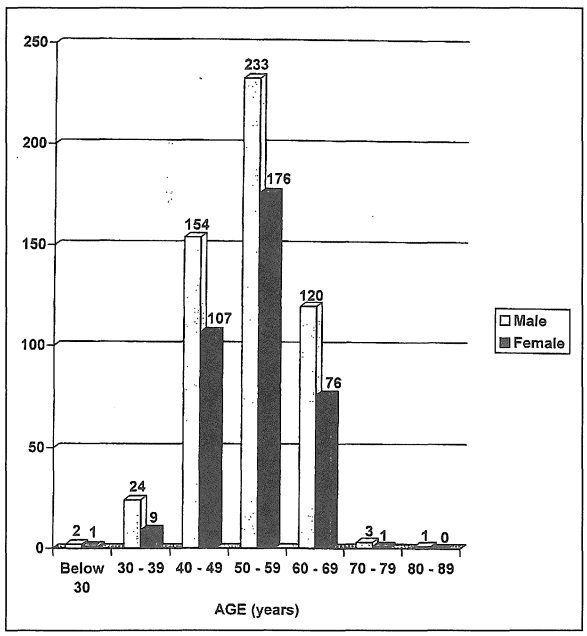

Fig. 1: Age and gender distribution of POAG patients

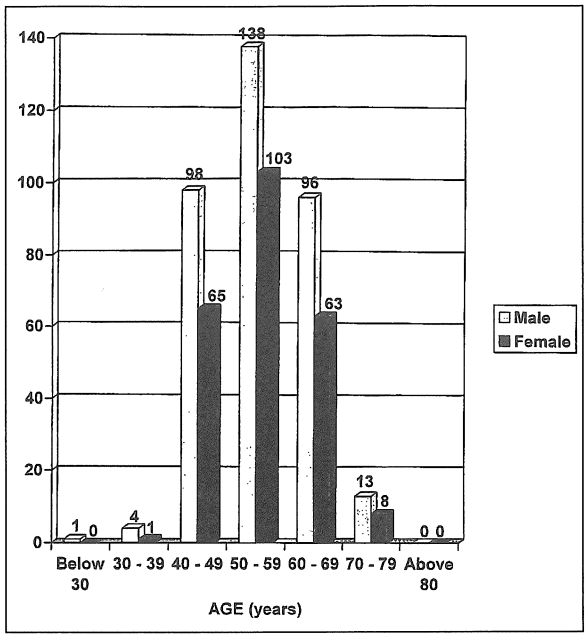

Fig. 2: Age and gender distribution of PACG patients

uveitis 81 (26.05%), phacogenic 82 (26.37%), rubeosis iridis 15 (4.81%), trauma 71 (22.83%), and aphakic/ pseudophakic 62 (19.94%).

Discussion

No accurate or reliable statistics for glaucoma in Malaysia are available to date. But glaucoma is an important cause of blindness in Malaysia. Therefore it would be useful to know the pattern of the occurrence of the different types of glaucoma that we encounter.

The General Hospital Kuala Lumpur is a national referral centre to which problem cases are referred from all over the country. However, as there are Consultant Ophthalmologists in all the States of Malaysia, it is unlikely that many glaucoma patients would have been referred to General Hospital Kuala Lumpur from outside the Federal Territory of Kuala Lumpur. The results of this study should be taken to indicate the pattern of glaucoma seen at General Hospital Kuala Lumpur and they cannot be extrapolated to the whole country.

A.S.M. Lim[2] found PACG to be 3 times more common than POAG in Singaporeans. R.C.K. Loh[3] reconfirmed this in the same population a few years later. Similar higher proportions of PACG cases as compared to POAG cases have been reported in several glaucoma series in Asians: Alsbirk[4] in Burma, Linner[5] in India and Pararajasegaram[6] in Ceylon.

It is generally accepted that PACG is more common than POAG in Asians. It is also accepted that PACG is more common in females. In this study, the contrary was found to be true on both these counts. 54.81% of all the primary glaucoma patients were POAG, compared to 35.65% PACG cases. Of the 590 patients with PACG 350 (59.32%) were males and 240 (40.68%) were females. However there was no statistical significance in this relationship between the prevalence of PACG and sex ($P>0.05$).

The relationship between PACG and race, however, was highly significant statistically ($p<0.01$). 38.31% of PACG patients were ethnic Chinese, 34.91% Malays and 26.27% Indians.

As far as the age distribution of POAG patients are concerned, 95.5% of them were between 40 and 69 years with 45.1% of them being between 50 and 59 years. Of the PACG patients 95.4% were between 40 and 69 years of age with 40.8% in the 50 to 59 years age group.

As far as secondary glaucoma is concerned, lens induced glaucoma (26.37%) and uveitis (26.05%) were the major causes. This was followed by trauma (22.83%) and aphakia/pseudophakia (19.94%). In the last mentioned group the cause of glaucoma was multifarious, but these were not analysed.

This review gives us an idea of the types of glaucoma seen at the General Hospital Kuala Lumpur. However the results cannot be extrapolated for the whole country. I hope it provides an initial mosaic of the pattern of glaucoma for future investigators to build on.

Acknowledgement

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References

1. Selvarajah S. Rehabilitation of the visually handicapped in Malaysia: Current Aspects in Ophthalmology Vol. I: Proceedings of XIII Congress of Asia-Pacific Academy of Ophth. Kyoto. Elsevier Science Publishers. Amsterdam 1992 : 155-8.

2. Lim, ASM. Prevention of Blindness in Singapore. Singapore Med J, 1968;6(2) : 96-102.

3. Loh, RCK. The problem of glaucoma in Singapore. Singapore Med. J 1968;9(2) : 76-80.

4. Alsbirk, PH. Assignment report on prevention and control of visual impairment and blindness (with special reference to glaucoma) in Burma. WHO. S.E. Asia region. Ophthal 1984. 78 : 1-16.

5. Linner E. Assignment report on assessment of glaucoma as cause of blindness in India. WHO S.E. Asia region: Ophthal 1982;55 : 1-9.

6. Pararajasegaram R. Glaucoma pattern in Ceylon. Trans. III Congress Asia Pacific Academy of Ophth. Singapore 1968 : 274-8.