Angle Closure Glaucoma in Asian Eyes

Glaucoma is the second most common cause of blindness in the world. It is estimated that there are 67 million people with primary glaucoma and 8 million people with secondary glaucoma worldwide.\(^1\) Approximately 6.7 million people are blind due to glaucoma according to the World Health Organization’s definition (visual acuity < 20/400). The ratio of angle closure glaucoma to open angle glaucoma is 1:10 in the European, but 3:1 among the ethnic Chinese.\(^2\) Due to the larger Asian population in the world, angle closure glaucoma is now the most prevalent type of glaucoma globally.\(^1\) It has been estimated that half of glaucoma patients worldwide are affected by angle-closure glaucoma.\(^3\)

Angle closure glaucoma (ACG) is one of the leading causes of blindness in Asian eyes, especially in Chinese population. It is the major cause of bilateral blindness and responsible for 95% of the bilateral blindness in China and affects over 1.5 million Chinese.\(^4\) Thailand is in Southeast Asia, a country which has many Thai population who are Chinese in origin. Therefore, angle closure glaucoma is also a major problem of blindness in the country. The prevalence of glaucoma increases with each decade after 40. In 2001, the population of Southeast Asia was 519 million people. Five per cent of the population are older than 65 years old, the age of which is likely to have a high prevalence of glaucoma. We performed an epidemiologic study to find out the prevalence of glaucoma in Thai elderly over 60 years of age.\(^5\) We found that the overall prevalence of glaucoma in Thai elderly was 6.1 per cent. The percentages of primary open angle glaucoma, primary angle closure glaucoma, normotension glaucoma and secondary glaucoma were 47.7 per cent, 41.4 per cent, 9.4 per cent, and 1.6 per cent, respectively.

This revealed that Thai population have more prevalence of ACG than the Caucasian, and nearly million of people throughout the country having glaucoma. This could be an important public health issue.

ACG is an anatomical disorder which unified by the presence of peripheral anterior synechiae and / or iridotrabecular apposition. Their presentation can be acute, with profound or chronic symptoms, or asymptomatic visual loss. Less than 20 per cent of patients with ACG have symptoms, which means it is often detected late after visual function has already been lost. Fifty per cent of people with acute ACG progress to asymptomatic chronic ACG, and the later form of chronic ACG is the most common form of ACG. This tends to be diagnosed in its later stages and is the major cause of blindness in Asia. The physician must identify the anatomic changes that have occurred and the underlying pathophysiology that has precipitated these changes in order to initiate the appropriate therapy for each type of angle closure glaucoma. Early diagnosis and appropriate treatment can prevent visual loss and blindness from glaucoma. There are certain risk factors for developing ACG. These included the following:

- **Race**: common in East Asians
- **Ocular biometrics**: short axial length of the eye
- **Age**: prevalence increases after 40 years old
- **Gender**: 2 - 4 times more common in women than in men
- **Family history of glaucoma**: increases risk
- **Refraction**: more common in hyperopic eye

The people who have these risk factors should be aware of ACG and periodic eye examination can help in early diagnosis. Also, screening patients at greater risk for angle closure can be beneficial in reducing the number of patients developing ACG and reduce the risk of blindness. In summary, the sooner glaucoma is diagnosed, the earlier it can be treated. If we treat it early, we can slow the rate of progression. Finally, if we can slow the rate of progression, we can prevent blindness from glaucoma.

**REFERENCES**


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