Why glaucoma prevalent in Asia

AFTER being the second cause of blindness worldwide, with Asians accounting for approximately half of the world's population, Zainal and associates in a National Eye survey in Malaysia, among 18,307 residents examined found that the age-adjusted prevalence of blindness and low vision was 0.29 per cent and 2.44 per cent respectively. Reddy and colleagues in a study of 311 rural populations aged 40 years and above in Selangor, reported the prevalence of impaired vision was 18.6 per cent and blindness 2.9 per cent. A detailed study of 150 patients revealed the common causes of visual impairment and blindness were refractive errors, cataract, glaucoma, diabetic retinopathy and age-related macular degeneration in order of frequency. Researchers in a Singapore Malay eye study, a population-based cross-sectional survey that examined 3,280 participants aged 40-80 years. Of the 3,280 participants 150 (4.6 per cent) had diagnosed glaucoma. The prevalence of glaucoma among the Malay population 40 years of age and above in Singapore is 3.4 per cent, comparable to ethnic Chinese and other ethnic groups in Asia.

Origins

The word "glaucoma" is from ancient Greek glaukos which means blue, green or grey. Glaucoma is a group of eye diseases which result in damage to optic nerve and vision loss. As of 2010, there were 44.7 million people in the world with open angle glaucoma. By 2020, the prevalence is projected to increase to 58.6 million worldwide and 3.4 million in the United States. Both internationally and in the US, glaucoma is the second-leading cause of blindness. Globally cataract is a more common cause. Glaucoma is also the leading cause of blindness in African Americans, who have high rates of primary open angle glaucoma. Bilateral visual loss can negatively affect mobility and interfere with driving. The most common type is open angle glaucoma with less common types including closed angle glaucoma and normal tension glaucoma. Open angle glaucoma develops slowly over time with no pain. Closed angle glaucoma can present gradually or suddenly. The sudden presentation may involve severe eye pain, blurred vision, mid-dilated pupil redness of the eye and nausea. Vision loss from glaucoma, once it has occurred, is permanent. Contributory factors for glaucoma include increased pressure in the eye, a family history of condition and high blood pressure. For eye pressure a value of greater than 21 mmHg or 2.8 kPa is often used with higher pressure leading to greater risk. Some individuals with high eye pressure for years and never develop damage. Conversely, optic nerve damage may occur with normal pressure, known as normal tension glaucoma. Laser treatments may be effective in both open and closed-angle glaucoma. Treatment of closed-angle glaucoma is a medical emergency.

Contributory factors

There are several contributory factors (causes) for glaucoma, ocular hypertension (increased pressure within the eye), is the most important risk factor in most cases of glaucoma, but in some populations, only 50 per cent of people with primary open-angle glaucoma actually have elevated ocular pressure. Open-angle glaucoma accounts for 90 per cent of glaucoma cases in the United States but many as half of glaucoma cases in the other nations (particularly East Asian countries. There is no clear evidence indicates vitamin deficiencies cause glaucoma in humans. It follows, then that oral vitamin supplementation is not a recommended treatment for glaucoma.) Caffeine increases intraocular pressure in those with glaucoma, but does not appear to affect normal individuals.

About the authors

Murtaza Mustafa is a former Assoc Professor Faculty of Medicine and Health Sciences, University Malaysia Sabah, with interest in infectious diseases, multi drug resistant bacteria, tuberculosis, Helicobacter pylori, MRSA, CA-MRSA and Melioidosis. He has three books-research monographs and 129 national and international publications to his credit.

Em Ilizar is a former medical officer with the Sabah Health Department. He presently serves as Senior Medical Officer with the Sabah Family Planning Association Clinic. He is a registered occupational Health professional with 44 international publications to his credit.