Measures to reduce the progression of Myopia

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The disease burden of myopia is on the rise. The younger population particularly, has been affected more during the last few years. According to a report published by the World Health Organization (WHO) distance vision impairment caused by uncorrected refractive error was highest in the Western Pacific region affecting 61.9 million people followed by the Southeast Asia with 54.5 million people affected.[1] Several genes have been identified in relation to high myopia.[2] Although the exact cause of myopia is unknown, possible factors having association include parents with myopic refractive error, increased near-work, gender, ethnicity, education, income, outdoor activities and axial length of the eye.[3]

The vision related quality of life in high myopes is usually affected due to the associated psychological and cosmetic factors. High myopes are more affected than those with mild or moderate myopia. Peripheral retinal degenerations, retinal detachments, cataracts, glaucoma and choroidal neovascularization are also associated with high myopia. Other ocular conditions linked to myopia are myelinated nerve fibers associated with myopic anisometropia, myopic maculopathy, lens subluxation, keratoconus and coloboma. Systemic maladies include delayed developmental milestones, prematurity, Marfan syndrome, Stickler syndrome, Noonan syndrome and Trisomy 21.[4]Myopia is also a feature of Weill-Marchesani syndrome and Homocystinuria.

Biometric error in greater axial lengths, pre-operative argon laser photocoagulation in selected patients, risk of post operativeretinal detachment are the factors that need to be considered while contemplating any surgery, whether clear lens extraction or intraocular lens(IOL) implantation. Phakic IOL surgery in selected range of myopia has been used and the need for comparative data addressing long-term safety has been stressed.[5]In addition to the use of spectacles, various types of eximer laser correction of myopia such as Laser in Situ Keratomileusis (LASIK) and photorefractive keratectomy (PRK) are available for patients to correct the refractive error.

The financial burden is reflected in terms of low productivity due to visual impairment caused by myopia, the treatment of ocular co morbidities and the cost of various methods of correction. [6,7] Any measures that can reduce the progression of myopia will therefore have beneficial socio-economic impact.

Preventive measures have been suggested in various studies. Simple measures such as spending more time outdoors led to less likelihood of being myopic. [8,9] Similar strategy was suggested in a systematic review and meta-analysis.[10] Increasing outdoor activities limited myopia, axial growth and elevated intraocular pressure in children.[11]

Effective optical treatment strategies for controlling myopia include orthokeratology contact lenses, soft bifocal contact lenses.[12] Optically imposed myopic defocus effectively slows myopia progression especially when peripheral treatment strategies are applied compared to central only strategies.[13] Topical pharmacological agents are rarely prescribed due to the side effects.

In the present day, higher education and the quest for knowledge has led to increased near work as most of the required information is available by means of the electronic devices. This known association of prolonged hours of near vision tasks, with myopia can be avoided

by increasing outdoor activity. Clinical trials are going on to reduce this public health problem as the saying goes: ‘it does not matter how slowly you go as long as you do not stop’. This issue of the journal carries informative articles on myopia as well as other interesting manuscripts.