Commentary: Clinical profile and distribution of peripheral retinal changes in myopic population in a hospital-based study in North India

The prevalence of myopia has rapidly increased worldwide. With nearly 28% of the world population having some form of myopia and with a projection that nearly half of world (staggering 5 billion people) will have some degree of myopia by 2050, it is reaching pandemic proportions.[1] With increasing awareness, greater number of myopes are opting for spectacle removal. Many of them, however, do not get their retina evaluated regularly post spectacle removal surgery and may present with retinal detachments (RDs). This is certainly avoidable and the onus of patient education and timely evaluation lies on us. Myopes account for over 40% of all RDs. Hence, regular screening of population at risk by binocular indirect ophthalmoscopy (BIO) can detect peripheral retinal changes (PRCs) that may be precursors to RD.

Khatwani N *et al*.[2] in their cross-sectional hospital-based survey have tried to evaluate the prevalence of various PRCs in myopic population in North India, ages 10–40 years, and correlate them with axial length (AL). They found PRCs in 53% of their study group with lattice degeneration (LD) being the commonest followed by white without pressure, white with pressure, and chorioretinal atrophy. They have found a significant positive association between peripheral retinal degeneration with age, increased AL, and severity of myopia.[2] Lower reduced prevalence of PRC in children suggests a possible temporal relationship between the age and development of PRC. This may also be correlated with increasing AL. Dhakal R *et al*.[3] in their retrospective study conclude that since pathologic lesions occur across different grades of myopia, all patients need too have their peripheral fundus evaluated well. Atchison *et al*.[4] reported that myopic eyes expand more in length followed by height and least in width compared with that of emmetropic eyes based on the analysis of magnetic resonance imaging data. Chen DZ *et al*.[5] have shown that the presence of posterior staphyloma was not found to be a significant factor in the development of PRC.[5] They also propose higher prevalence of temporal LD, suggesting asymmetric elongation of the eyeball. Atchison *et al*. propose that pyramidal structure of the orbit may favor temporal over nasal expansion.[4] In another study, Ishii *et al*.[6] show that there are two phases of growth: a rapid global expansion phase up to 6 years of life followed by "oblate-to-prolate": transition to myopia from 7 to 19 years of age.[4] The explanation of PRC is not very clear. However, choroidal thinning has been demonstrated by optical coherence tomography. This thinning, when occurs peripherally, compromises choroidal blood supply, which in turn diminishes peripheral perfusion and may predispose to PRC in conjunction with stretching due to axial expansion. It has been observed clinically that on many occasions, LD and other PRC occur symmetrically between two eyes, and this fact must be remembered while examining these patients with BIO.

In conclusion, the close association between growth and stabilization of AL and myopia is consistent with the suggestion that axial elongation may be the primary component in myopia progression and stabilization. Studies are necessary to prove that AL can serve as a surrogate measure for myopia progression. Also, it must become mandatory for all ophthalmologists to screen myopes with BIO.

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