Ocular Biometry in the adult population in rural central China.

A population-based, cross-sectional study

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Abstract

PURPOSE: To describe the distribution and determinants of ocular biometric parameters in adult Chinese.

METHODS: A population-based, cross-sectional study performed in rural Central China included 1587 participants aged 40 or more years. Ocular biometrical parameters including axial length (AL), anterior chamber depth (ACD), corneal radius (CR) and horizontal corneal diameter (white-to-white distance) were measured using non-contact partial coherence interferometry (IOL Master).

RESULTS: Ocular biometric data on 1712 participants with a average age of 57.08 ± 11.12 (SD) years were analyzed at last. The general mean AL, ACD, CR and WTW were 22.80 mm ± 1.12 (SD), 2.96 mm ± 0.36(SD), 7.56 mm ± 0.26(SD) and 11.75 mm ± 0.40(SD), respectively. The mean values of each parameter in 40- to 49-, 50- to 59-, 60- to 69-, and 70- to 91-years age groups were as follow: AL, 22.77mm ± 0.87(SD), 22.72mm ± 1.06(SD), 22.89mm ± 1.42(SD), 22.92mm ± 0.80(SD); ACD, 3.11mm ± 0.32(SD), 2.98mm ± 0.34(SD), 2.86mm ± 0.36(SD), 2.77mm ± 0.35(SD); CR, 7.56mm ± 0.25(SD), 7.54mm ± 0.26(SD), 7.55mm ± 0.26(SD), 7.49mm ± 0.28(SD); WTW, 11.79mm ± 0.38(SD), 11.75 mm ± 0.40(SD); mm, 11.72 ± 0.41(SD), 11.67mm ± 0.41(SD). The AL, ACD and WTW were correlated with age. In multivariate linear regression models, the AL, ACD, CR and WTW were correlated with one another.

CONCLUSIONS: The results in this analysis might provide normative data for glaucoma and cataract patients and a useful reference for multiple purposes. The correlation of ACD with age confirmed further that the incidence of primary angle closure glaucoma increased with age, especially in Asian elderly population.