

## Ocular Biometry: Common Etiologies of Difference More Than 0.33mm between Axial Lengths of the 2 Eyes

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**Abstract :** Purpose: We tried to find the most common etiologies for anisometropia in pre-op cataract cases: axial or refractive. Methods: In this cross-sectional study ,41 pre-op cataract eyes with more than 0.33 difference between axial lengths of 2 eyes were enrolled.Considered for each 1mm difference between axial lengths in long eyes( AXL more than 25):1.75-2.00 D of anisometropia, for normal eyes(AXL: 22- 25):2.50D and for short eyes (AXL less than 22):3.50-3.75 D as axial anisometropia. If there are more or lesser anisometropia, we recorded as refractive anisometropia. Results: Average of anisometropia :4.24 D, prevalence of PK or LK :1 (2.38%), kc:1(2.38%), glaucoma surgery: 1(2.38%), and pseudophakic status of the opposite eye 8(19.04%). Prevalence of axial anisometropia:21 (52.4%) and refractive anisometropia 20(47.6%).Then on basis of this study we can rely on the patient's refraction exactly before phaco for evaluation of axial length differences between the 2 eyes, because most of the anisotropias are axial. Conclusion: In most cases, cataract does not induce significant change in refractive error (secondary myopia) and AXL difference between the 2 eyes are correlated with anisometropia.so it can be used for cataract patient's ocular biometry evaluation. Pre-cataract refraction is a valuable variable should be measured and recorded in routin eye examination.

**Keywords :** ocular axial length, anisometropia, cataract, ophthalmology and optometry

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