Purpose: To investigate the changes in central corneal thickness (CCT) and anterior chamber depth (ACD) in eyes with open angle glaucoma treated with topical latanoprost (0.005%, once daily) for 6 months. Methods: Thirty seven eyes of 24 newly diagnosed patients with primary open-angle glaucoma (POAG) (26 eyes) or pseudoexfoliation glaucoma (PXG) (11 eyes) were included. Intraocular pressure (IOP) was measured with Goldmann applanation tonometry, CCT was measured with ultrasound pachymeter, while ACD and ACD/axial length (AL) values were obtained by ultrasound biometry. IOP, CCT, ACD and ACD/AL measurements before treatment were compared with the recordings at the 3rd and the 6th months of treatment. Results: Significant reduction in IOP was recorded at month 3 and 6. Mean CCT values at baseline, and at months 3 and 6 were, 546.6±31.5, 541.±29.4 and 542.2±29.3, respectively, showing a significant reduction after treatment. Mean ACD values at baseline, and at months 3 and 6 were, 3.00±0.43, 2.95±0.42 and 2.97±0.41, respectively, showing a significant reduction at month 3, but not at month 6. ACD/AL changes after treatment were similar to the ACD course. The significant changes in CCT and ACD measurements were found to be related with the POAG eyes, not with the PXG eyes, when evaluated separately. Conclusions: Apart from a substantial reduction in IOP, latanoprost induces corneal thinning and ACD reduction at the short term of treatment, especially in eyes with POAG. Financial Disclosure: No.