## Abstract:

Purpose: To evaluate corneal biomechanical properties in eyes that has undergone penetrating keratoplasty (PK). Materials and Methods: Retrospective observational study in a tertiary care centre. Data recorded included ocular response analyzer (ORA) values of normal and post-keratoplasty eyes [corneal hysteresis (CH), corneal resistance factor (CRF), Goldmann-correlated intraocular pressure (IOPg), and cornea-compensated intraocular pressure (IOPcc)], corneal topography, and central corneal thickness (CCT). Wilcoxon signed rank test was used to analyze the difference in ORA parameter between post-PK eyes and normal eyes. Correlation between parameters was evaluated with Spearman's rho correlation. Results: The ORA study of 100 eyes of 50 normal subjects and 54 post-keratoplasty eyes of 51 patients showed CH of 8.340 ± 1.85 and 9.923 ± 1.558, CRF of 8.846 ± 2.39 and 9.577 ± 1.631 in post-PK eyes and normal eyes, respectively. CH and CRF did not correlate with post-keratoplasty astigmatism ($P = 0.311$ and 0.276, respectively) while a significant correlation was observed with IOPg ($P = 0.004$) and IOPcc ($P < 0.001$). Conclusion: Biomechanical profiles were significantly decreased in post-keratoplasty eyes with significant correlation with higher IOP as compared with that in normal eyes.