EVALUATION OF CORNEAL AND ANTERIOR CHAMBER CHANGES FOLLOWING PTERYGIUM SURGERY USING PENTACAM: A PROSPECTIVE STUDY
R. Oltulu1, S. Demirel2, O. Sarac3
1Ankara University, Ankara, Turkey
2Kahramanmaras State Hospital, Kahramanmaras, Turkey
3Ankara Ataturk Research and Training Hospital 2nd Ophthalmology Department, Ankara, Turkey

Purpose: The aim of this study was to evaluate the effect of pterygium surgery on the corneal topography and anterior chamber parameters using a Pentacam system.

Methods: Prospective, clinical study. Scheimpflug camera was performed in 21 patients (21 eyes) with primary pterygium, both before and 2 months after pterygium excision using conjunctival autograft technique. The following topographic parameters were noted: total mean refractive power; index of surface variance; aberration coefficient; anterior chamber depth; anterior chamber angle. The best corrected visual acuity (BCVA) changes were also noted. Differences between preoperative and postoperative values were compared statistically with Wilcoxon signed rank test.

Results: The mean refractive power was 42.59±3.44 D preoperatively and 43.72±2.07 D postoperatively (p=0.154). The mean index of surface variance was 72.24±48.72 preoperatively and 32±23.13 postoperatively (p=0.003). The mean aberration coefficient was 3.04±1.27 preoperatively and 2.4±1.06 postoperatively (p=0.017). The mean anterior chamber depth was 2.91±0.49 mm preoperatively and 2.91±0.52 mm postoperatively (p=0.638). The mean anterior chamber angle was 33.13±6.89 degrees preoperatively and 32.77±4.86 degrees postoperatively (p=0.779). The mean overall preoperative BCVA 0.13±0.29 was significantly improved to 0.0238±0.07 postoperatively (p=0.011).

Conclusions: Corneal topographic changes caused by the pterygium are almost reversible after surgical treatment. While pterygium surgery significantly improves the BCVA, and decreases the aberration coefficient and index of surface variance, it does not have any effect on the anterior chamber parameters.