

## SUMMARY

### **Effect of Strabismus Surgery on Orbscan Corneal Topography and Refractive Changes after Strabismus Surgery**

**Purpose:** To evaluate the effect of strabismus surgery on orbscan corneal topography and refractive changes after strabismus surgery.

**Methods:** In this prospective study 36 eyes of 26 patients undergoing strabismus surgery were evaluated. Cycloplegic refraction and corneal topography measures using Orbscan II (Orbtek, Inc) were recorded preoperatively and postoperatively first week, first month and third month. Preoperative and postoperative anterior chamber depth, keratometric values and central corneal depth were assessed. Patients were divided into three groups: group 1 (rectus muscle surgery), group 2 (oblique muscle surgery), group 3 (patients with restriction).

**Results:** Spherical equivalent difference was statistically significant at postoperative first week ( $p=0,00$ ). Though spherical equivalent difference at postoperative first week and meridional equivalent difference at  $90^\circ$  at first and third months were statistically significant in group 1 ( $p=0,00$ ,  $p=0,001$ ,  $p=0,00$ ), there was no significant change in group 2 and 3. The values of all the patients obtained from their tangential power keratometric maps at  $180^\circ$  at postoperative third month and at  $270^\circ$  at postoperative first month in 3 mm zone were significantly significant when compared to their preoperative values ( $p=0,003$ ,  $p=0,006$ ). The values at  $180^\circ$  at postoperative third month ( $p=0,002$ ) and at  $270^\circ$  at postoperative first week in 3 mm zone ( $p=0,007$ ), at  $90^\circ$  at postoperative third month ( $p=0,007$ ) and at  $270^\circ$  at postoperative first month in 5 mm zone ( $p=0,006$ ) in the tangential power keratometric map of group 1 were statistically significant when compared to preoperative values. The difference between preoperative values and the values at  $180^\circ$  at postoperative third month in 3 mm zone and at  $90^\circ$  at postoperative third month in 5 mm zone were significant ( $p=0,009$ ,  $p=0,004$ ). No statistical change was observed in tangential power posterior maps.

**Conclusion:** The strabismus surgery, particularly rectus muscle surgery may result in corneal topographic and refractive changes some of which are transient in the first 3 months. The clinician must consider that a reevaluation of the refractive changes may be necessary three months after strabismus surgery.

**Key words:** strabismus, orbscan, refraction, tangential map

**Communication adress:** gokyel1976@yahoo.com