Postoperative IOP is not related to intrascleral lake morphology after non penetrating glaucoma surgery without collagen implant

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Purpose: To investigate the relationship between intrascleral lake morphology after non penetrating deep sclerectomy with mitomycin C and without collagen implant and postoperative IOP.

Methods: Retrospective, observational non comparative study. 88 eyes of 88 consecutive patients who underwent deep sclerectomy with mitomycin C and without any scleral implant were analyzed. We measured the intrascleral lake parameters as height, width, depth, cross-sectional area and volume using swept source optical coherence tomography (SS-100. CASIA, Tomey, Nagoya, Japan) and compared them with postoperative IOP after 1, 2 and 3 years.

Results: The mean age of the patients was 71.6 ± 14.3 years and the mean postoperative IOP was 14.6 ± 3.9 mmHg. We could not find any intrascleral bleb in 13 operated eyes by SA-OCT. The mean intrascleral bleb height was 0.42 ± 0.29 mm, the mean width was 2.73 ± 1.76 mm, the mean depth was 2.43 ± 1.54 mm, the mean cross-sectional area was 1.21 ± 1.04 mm² and the mean volume of the lake was 4.68 ± 5.6 mm³. The correlations between all the parameters of the lake morphology and the postoperative IOP, measured at 1, 2 and 3 years, were poor. In the 1 year postoperative group the correlation coefficients of the bleb height, width, depth, area and volume of the lake were r = -0.253 (p = 0.044), r = -0.367 (p = 0.012), r = -0.298 (p = 0.044), r = -0.160 (p = 0.288) and r = -0.241 (p = 0.107), respectively. In the 2 years postoperative group were r = -0.351 (p = 0.167), r = 0.160 (p = 0.541), r = -0.184 (p = 0.481), r = -0.057 (p = 0.828) and r = 0.015 (p = 0.954). In the 3 years postoperative group.

Conclusion: The correlation between the Postoperative IOP and intrascleral lake morphology at different postoperative time points is poor.