

Abstract 249

APHAKIA CORRECTION BY SUTURELESS SCLERAL FIXATION: MODIFIED YAMANE TECHNIQUE VERSUS CARLEVALE IMPLANTATION

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Sutureless scleral fixation is a technique for correcting aphakia in cases of absent or insufficient capsular support. Our aim was to report on the functional and anatomical results as well as complications of sutureless scleral fixation using two different techniques.

A prospective observational study was carried out in the ophthalmology department of the Mohamed Taher Maamouri Hospital in Nabeul. Eyes operated on by sutureless scleral fixation using the Yamane technique (group 1) or the scleral pocket technique using the Carleval implant (group 2) were included. These patients underwent surgery between November 2020 and November 2023. Postoperative follow-up lasted 6 months.

Thirty-eight eyes from 36 patients were included in our study. The eyes were divided into two groups (20 eyes in group 1 and 18 eyes in group 2). The median age was 64.5 [52-78]. Aphakia following complicated cataract surgery was the main etiology. At 6 months postoperatively, a significant improvement in best corrected visual acuity (BCVA) was noted in both groups ($p < 10^{-3}$). The mean tilt was 3.47 ± 2.11 . The mean total endothelial cell loss was 360.9 ± 199.7 cell/mm². Postoperative hypertonia, implant decentration and Irvine Gass syndrome were the most frequent complications. We found no significant difference in terms of postoperative BCVA, tilt and endothelial loss between the two groups. Irvine Gass syndrome was more frequent in group 2 ($p = 0.045$). Implant decentration was found exclusively in group 1 ($p = 0.005$).

Sutureless scleral fixation offers a significant improvement in visual acuity, with satisfactory stability of the implants. We found no significant differences between the two techniques in terms of functional and anatomical results. A statistically significant difference was found in postoperative complications. Prospective studies with longer follow-up periods will enable us to compare these two techniques more profoundly.