

**Clinical Outcomes After Deep Anterior
Lamellar Keratoplasty Using The Big-Bubble
Technique In Patients With Keratoconus**

Thesis
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Summary

The objective of this study was to evaluate the visual and refractive outcomes and complications during after deep anterior lamellar keratoplasty (DALK) using the big-bubble technique in eyes with keratoconus.

In this Prospective noncomparative interventional study ,20 eyes with moderate to advanced keratoconus underwent DALK using the big-bubble technique. All of them had poor spectacle-corrected visual acuity or were contact lens intolerant. DALK was performed using the big-bubble technique. The visual acuity refractive status, intraoperative and postoperative complications were evaluated.

The mean age of at the time of surgery was 21.75 years \pm 5.025 years. The mean operative time was 76.45 minutes \pm 7.62.

Big-bubble technique has the advantage of exposing a smooth surface of excellent optical quality. In the present study, the exposed Descemet's membrane with big-bubble technique was successfully achieved in 20 of 27 (74%) of the eyes.

The mean preoperative corneal thickness in the study group was 327.75 μ \pm 37.46 μ (range of 246 μ - 375 μ).

The mean postoperative corneal thickness measured after 1 year was 530.45 μ \pm 38.83 μ (range of 411 μ - 610 μ).the Postoperative increase in corneal thickness was statistically significant (P values < 0.001).

The mean preoperative average K readings in the study group were 60.28 D \pm 5 D (range of 56 to 79.8 D), decreased postoperatively after 1 year to 45.91 D \pm 1.79 D (range of 40.80 to 51 D).

The mean postoperative topographic astigmatism at 12 months was $4.02 \text{ D} \pm 1.55 \text{ D}$.

It was noted in the study that after one year of follow up, 17 out of 20 eyes (85%) achieved a final BSCVA of or better than 0.5 ($\geq 20/40$ or 6/12).

DALK using the big-bubble technique appears to be a safe and effective procedure for eyes with moderate to advanced keratoconus. without the risk of endothelial rejection. Endothelial graft rejection is absent after DALK. However, stromal graft rejection, although rare, does occur

In case of extensive intraoperative DM perforation, which is the most important intraoperative complication, it does not pose any limitation to ongoing penetrating keratoplasty.