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COMPARISON OF CORNEAL PARAMETERS AND VISUAL OUTCOMES FOLLOWING PHACOEMULSIFICATION WITH FOLDABLE INTRAOCULAR LENS IMPLANTATION IN DIABETIC AND NON-DIABETIC PATIENTS

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ABSTRACT

Background: Diabetes mellitus can adversely affect the corneal endothelium and may increase its susceptibility to surgical trauma during phacoemulsification. Although cataract surgery generally provides substantial visual improvement, diabetic patients may demonstrate greater postoperative endothelial changes than non-diabetic patients. This study compared corneal parameters and visual outcomes following phacoemulsification with foldable intraocular lens (IOL) implantation in diabetic and non-diabetic patients.

Materials and Methods: A prospective comparative observational study was conducted in the Department of Ophthalmology, N.Y.T.I.M.S and Raigad Hospital and Research Center, Karjat, Raigad, Maharashtra, India, from January 2026 to July 2026. Fifty patients undergoing phacoemulsification with foldable IOL implantation were included and equally divided into diabetic (n=25) and non-diabetic (n=25) groups. Preoperative and postoperative best-corrected visual acuity (BCVA), endothelial cell density (ECD), central corneal thickness (CCT), coefficient of variation (CV), and percentage of hexagonal cells were assessed.

Results: The mean age was 65.24 ± 7.18 years in diabetic patients and 63.16 ± 7.42 years in non-diabetic patients. Preoperative corneal parameters were comparable between the groups. Following surgery, ECD decreased significantly in both groups, from 2428.6 ± 218.4 to 2151.3 ± 214.7 cells/mm² in diabetic patients and from 2516.8 ± 205.7 to 2298.6 ± 201.8 cells/mm² in non-diabetic patients ($p<0.001$ for both). The percentage endothelial cell loss was significantly greater in diabetic patients (11.4% vs. 8.7%; $p=0.003$). Postoperative CV was higher and hexagonality was lower among diabetic patients ($p=0.014$ and $p=0.017$, respectively). BCVA improved substantially in both groups, from 0.72 ± 0.28 to 0.18 ± 0.12 logMAR in diabetic patients and from 0.69 ± 0.25 to 0.12 ± 0.09 logMAR in non-diabetic patients. Postoperative BCVA was significantly better among non-diabetic patients ($p=0.048$).

Conclusion: Phacoemulsification with foldable IOL implantation resulted in significant visual improvement in both diabetic and non-diabetic patients. However, diabetic patients demonstrated greater endothelial cell loss and postoperative morphological alterations, suggesting increased corneal endothelial vulnerability to surgical stress. Careful preoperative endothelial assessment and appropriate postoperative monitoring may be beneficial in diabetic patients undergoing cataract surgery.

Keywords: Diabetes mellitus; cataract; phacoemulsification; intraocular lens; corneal endothelium; endothelial cell density; visual outcome.

INTRODUCTION

Cataract is one of the leading causes of visual impairment worldwide, and its occurrence is increased and often accelerated in patients with diabetes mellitus. Phacoemulsification with foldable intraocular lens (IOL) implantation is the standard surgical treatment for cataract because of its small incision, reduced postoperative inflammation, rapid visual rehabilitation, and predictable refractive outcomes.[1]

Although phacoemulsification is generally safe, ultrasonic energy, fluid turbulence, and intraocular manipulation can cause corneal endothelial injury. The corneal endothelium has limited regenerative capacity and is essential for maintaining corneal transparency. Endothelial cell density (ECD), central corneal thickness (CCT), coefficient of variation (CV), and percentage of hexagonal cells are commonly used to assess endothelial health and postoperative corneal changes.[2]

Diabetes mellitus can adversely affect the cornea through chronic metabolic and microvascular changes. Diabetic patients may exhibit reduced endothelial cell density, increased polymegathism and pleomorphism, and impaired endothelial pump function. These pre-existing abnormalities may increase the susceptibility of the cornea to surgical trauma during phacoemulsification and may contribute to delayed postoperative corneal recovery.[3,4]

Comparative studies have demonstrated differences in corneal endothelial response following phacoemulsification in diabetic and non-diabetic patients. A systematic review and meta-analysis reported lower postoperative endothelial cell density and alterations in endothelial morphology among diabetic eyes, suggesting greater vulnerability to surgical stress.[5] Another meta-analysis found that although several preoperative corneal parameters were comparable between diabetic and non-diabetic patients, diabetic eyes demonstrated greater postoperative endothelial cell loss and increased CCT at selected follow-up periods, indicating delayed endothelial recovery.[6]

Visual outcome is another important consideration in diabetic patients undergoing cataract surgery. Although phacoemulsification usually produces substantial improvement in visual acuity, the final outcome may be influenced by diabetic retinopathy, diabetic macular edema, pre-existing corneal abnormalities, and postoperative inflammatory changes.[7] Therefore, assessment of visual acuity together with objective corneal parameters provides a more comprehensive evaluation of postoperative recovery.

Despite the available evidence, the extent of corneal endothelial changes and their relationship with visual recovery following phacoemulsification in diabetic patients remain clinically relevant. Hence, the present study was undertaken to compare corneal parameters and visual outcomes following phacoemulsification with foldable intraocular lens implantation in diabetic and non-diabetic patients, with particular emphasis on postoperative endothelial changes, central corneal thickness, and visual acuity.

Objectives

1. To compare the preoperative and postoperative corneal parameters—including endothelial cell density, central corneal thickness, coefficient of variation, and percentage of hexagonal cells—in diabetic and non-diabetic patients undergoing phacoemulsification with foldable IOL implantation.
2. To compare postoperative visual outcomes between diabetic and non-diabetic patients following phacoemulsification with foldable IOL implantation.
3. To assess the association between diabetes mellitus and postoperative changes in corneal parameters and visual acuity following phacoemulsification.

MATERIALS AND METHODS

Study Design: A prospective comparative observational study was conducted to compare corneal parameters and visual outcomes following phacoemulsification with foldable intraocular lens implantation in diabetic and non-diabetic patients.

Study Setting: The study was conducted in the Department of Ophthalmology, N.Y.T.I.M.S and Raigad Hospital and Research Center, Karjat, Raigad, Maharashtra, India.

Study Duration: The study was conducted over a period of January 2026 to July 2026.

Study Population and Sample Size: A total of 50 patients undergoing phacoemulsification with foldable IOL implantation for cataract were included in the study. The participants were equally divided into two groups:

- Group I: 25 diabetic patients
- Group II: 25 non-diabetic patients

Thus, the study population comprised 50% diabetic and 50% non-diabetic patients.

Inclusion Criteria

1. Patients aged ≥18 years undergoing uncomplicated phacoemulsification with foldable IOL implantation.
2. Patients diagnosed with age-related cataract.
3. Patients willing to participate and provide informed consent.
4. Patients in the diabetic group with documented diabetes mellitus.
5. Patients in the non-diabetic group without a history of diabetes mellitus.

Exclusion Criteria

1. Patients with pre-existing corneal disease or corneal opacity.
2. Patients with previous ocular surgery or ocular trauma.

3. Patients with glaucoma or other significant ocular pathology.
4. Patients with advanced diabetic retinopathy or clinically significant macular edema likely to affect visual outcome.
5. Patients with complicated cataract surgery or significant intraoperative complications.
6. Patients unwilling to participate or unable to complete the required follow-up.

Study Procedure: Eligible patients underwent a detailed ophthalmological examination before surgery. Baseline demographic and clinical information, including age, sex, diabetic status and relevant ocular history, was recorded. Preoperative visual acuity was assessed, and corneal parameters were evaluated using appropriate corneal endothelial assessment techniques.

All patients underwent phacoemulsification with implantation of a foldable posterior chamber intraocular lens under standard aseptic precautions. The surgical procedure was performed using a standardized technique, with efforts made to minimize endothelial trauma and maintain comparable surgical conditions between the two groups.

Postoperatively, patients were examined at predefined follow-up visits. Best-corrected visual acuity (BCVA) and corneal parameters were recorded and compared with the respective preoperative values. The principal corneal parameters assessed included endothelial cell density (ECD), central corneal thickness (CCT), coefficient of variation (CV), and percentage of hexagonal endothelial cells.

Outcome Measures

The primary outcomes were:

- Change in endothelial cell density following surgery.
- Change in central corneal thickness.
- Change in endothelial cell morphology, including coefficient of variation and percentage of hexagonal cells.
- Change in best-corrected visual acuity.

The postoperative changes were compared between diabetic and non-diabetic patients.

Statistical Analysis: Data were entered into Microsoft Excel and analyzed using appropriate statistical software. Quantitative variables were expressed as mean ± standard deviation (SD), while qualitative variables were presented as frequencies and percentages. Continuous variables were compared using an appropriate parametric or non-parametric test depending on data distribution. Categorical variables were compared using the Chi-square test or Fisher's exact test. Paired analyses were used to compare preoperative and postoperative parameters within each group. A p-value <0.05 was considered statistically significant, while p<0.001 was considered highly significant.

Ethical Considerations: The study was conducted after obtaining approval from the Institutional Ethics Committee. Written informed consent was obtained from all participants before enrolment. Patient confidentiality was maintained throughout the study, and the data were used solely for academic and research purposes.

RESULTS

[Table 1] shows the demographic characteristics of the study participants. The mean age of diabetic patients was 65.24 ± 7.18 years, compared with 63.16 ± 7.42 years among non-diabetic patients, with no statistically significant difference (p=0.324). Males constituted 56.0% of the diabetic group and 52.0% of the non-diabetic group. Right-eye involvement was observed in 52.0% of diabetic and 48.0% of non-diabetic patients. Overall, the two groups were comparable with respect to baseline demographic characteristics.

Table 1: Demographic and Baseline Characteristics of Study Participants

Variable	Category	Diabetic (n=25)	Non-diabetic (n=25)	p-value
Age (years)	Mean ± SD	65.24 ± 7.18	63.16 ± 7.42	0.324
Age group	<60 years	5 (20.0%)	7 (28.0%)	0.508
	60–69 years	13 (52.0%)	12 (48.0%)	
	≥70 years	7 (28.0%)	6 (24.0%)	
Sex	Male	14 (56.0%)	13 (52.0%)	0.777
	Female	11 (44.0%)	12 (48.0%)	
Laterality	Right eye	13 (52.0%)	12 (48.0%)	0.777
	Left eye	12 (48.0%)	13 (52.0%)	

Table 2: Comparison of Preoperative Corneal Parameters

Corneal parameter	Diabetic (n=25) Mean ± SD	Non-diabetic (n=25) Mean ± SD	p-value
Endothelial cell density (cells/mm²)	2428.6 ± 218.4	2516.8 ± 205.7	0.151
Central corneal thickness (µm)	536.4 ± 24.8	529.7 ± 22.6	0.321
Coefficient of variation (%)	38.6 ± 5.2	35.8 ± 4.7	0.056
Hexagonal cells (%)	52.8 ± 5.9	55.4 ± 5.2	0.107

[Table 2] compares the baseline corneal parameters between the two groups. The mean preoperative endothelial cell density was 2428.6 ± 218.4 cells/mm² in diabetic patients and 2516.8 ± 205.7 cells/mm² in non-diabetic patients. The mean CCT was 536.4 ± 24.8 µm and 529.7 ± 22.6 µm,

respectively. Diabetic patients also had a slightly higher coefficient of variation and lower percentage of hexagonal cells. However, none of these differences reached statistical significance (p>0.05), indicating comparable baseline corneal characteristics.

Table 3: Comparison of Visual Acuity Before and After Surgery

Visual acuity	Diabetic	Non-diabetic	p-value
Preoperative BCVA (logMAR)	0.72 ± 0.28	0.69 ± 0.25	0.689
Postoperative BCVA (logMAR)	0.18 ± 0.12	0.12 ± 0.09	0.048*
Mean improvement in BCVA	0.54 ± 0.23	0.57 ± 0.21	0.634

[Table 3] demonstrates the change in visual acuity following phacoemulsification. Preoperative BCVA was comparable between diabetic and non-diabetic patients (0.72 ± 0.28 vs. 0.69 ± 0.25 logMAR; p=0.689). Following surgery, BCVA improved substantially in both groups. The postoperative BCVA was 0.18 ± 0.12 logMAR in diabetic patients and 0.12 ± 0.09 logMAR in non-diabetic patients, with a statistically significant difference between groups (p=0.048). The mean improvement in BCVA was comparable between the two groups.

Table 4: Preoperative and Postoperative Endothelial Cell Density

Group	Preoperative ECD (cells/mm²)	Postoperative ECD (cells/mm²)	Mean reduction	p-value
Diabetic (n=25)	2428.6 ± 218.4	2151.3 ± 214.7	277.3 (11.4%)	<0.001*
Non-diabetic (n=25)	2516.8 ± 205.7	2298.6 ± 201.8	218.2 (8.7%)	<0.001*

[Table 4] shows the change in endothelial cell density following surgery. In diabetic patients, ECD decreased from 2428.6 ± 218.4 to 2151.3 ± 214.7 cells/mm², representing an 11.4% reduction. In non-diabetic patients, ECD decreased from 2516.8 ± 205.7 to 2298.6 ± 201.8 cells/mm², corresponding to an 8.7% reduction. The reduction was statistically significant within both groups (p<0.001). The findings indicate that phacoemulsification resulted in endothelial cell loss, with a greater proportional reduction observed among diabetic patients.

Table 5: Comparison of Postoperative Corneal Parameters

Parameter	Diabetic (n=25) Mean ± SD	Non-diabetic (n=25) Mean ± SD	p-value
ECD (cells/mm²)	2151.3 ± 214.7	2298.6 ± 201.8	0.015*
CCT (µm)	554.8 ± 27.6	541.2 ± 23.8	0.071
Coefficient of variation (%)	43.2 ± 6.1	39.1 ± 5.2	0.014*
Hexagonal cells (%)	47.6 ± 6.2	51.9 ± 5.6	0.017*

[Table 5] compares corneal parameters after surgery. The postoperative ECD was significantly lower in diabetic patients than in non-diabetic patients (2151.3 ± 214.7 vs. 2298.6 ± 201.8 cells/mm²; p=0.015). Similarly, the coefficient of variation was significantly higher in diabetic patients (43.2 ± 6.1% vs. 39.1 ± 5.2%; p=0.014), while the percentage of hexagonal cells was significantly lower (47.6 ± 6.2% vs. 51.9 ± 5.6%; p=0.017). Although CCT was higher in diabetic patients, the difference was not statistically significant (p=0.071).

Table 6: Percentage Change in Corneal Parameters Following Surgery

Parameter	Diabetic	Non-diabetic	p-value
ECD reduction (%)	11.4 ± 3.2	8.7 ± 2.8	0.003*
CCT increase (%)	3.4 ± 2.1	2.2 ± 1.8	0.041*
CV increase (%)	11.9 ± 5.4	9.2 ± 4.8	0.072
Hexagonal cells reduction (%)	9.8 ± 4.6	6.3 ± 4.1	0.009*

[Table 6] presents the percentage changes in corneal parameters following surgery. Diabetic patients experienced greater endothelial cell loss than non-diabetic patients (11.4 ± 3.2% vs. 8.7 ± 2.8%; p=0.003). The increase in CCT was also greater among diabetic patients (3.4 ± 2.1% vs. 2.2 ± 1.8%; p=0.041). Reduction in the percentage of hexagonal cells was significantly greater in diabetic patients (9.8 ± 4.6% vs. 6.3 ± 4.1%; p=0.009). The difference in percentage change in coefficient of variation was not statistically significant (p=0.072).

Table 7: Postoperative Visual Outcome According to BCVA

Postoperative BCVA	Diabetic (n=25)	Non-diabetic (n=25)	p-value
≤0.10 logMAR	12 (48.0%)	17 (68.0%)	0.157
0.11–0.30 logMAR	10 (40.0%)	7 (28.0%)	
>0.30 logMAR	3 (12.0%)	1 (4.0%)	
Total	25 (100%)	25 (100%)	

[Table 7] demonstrates the distribution of patients according to postoperative BCVA. A BCVA of ≤0.10 logMAR was achieved by 48.0% of diabetic patients compared with 68.0% of non-diabetic patients. BCVA between 0.11–0.30 logMAR was observed in 40.0% of diabetic and 28.0% of non-diabetic patients. Only 12.0% of diabetic and 4.0% of non-diabetic patients had BCVA >0.30 logMAR. Although better visual acuity was more frequently observed among non-diabetic patients, the overall difference was not statistically significant (p=0.157).

Table 8: Association of Diabetes with Significant Endothelial Cell Loss

Endothelial cell loss	Diabetic (n=25)	Non-diabetic (n=25)	p-value
<10%	10 (40.0%)	17 (68.0%)	0.047*
≥10%	15 (60.0%)	8 (32.0%)	
Total	25 (100%)	25 (100%)	

[Table 8] evaluates the association between diabetes and endothelial cell loss of ≥10%. Among diabetic patients, 60.0% experienced endothelial cell loss of ≥10%, compared with 32.0% of non-diabetic patients. Conversely, endothelial cell loss of <10% was observed in 40.0% of diabetic and 68.0% of non-diabetic patients. This difference was statistically significant (p=0.047), indicating a higher frequency of substantial endothelial cell loss among diabetic patients following phacoemulsification.

DISCUSSION

The present comparative study evaluated corneal endothelial parameters and visual outcomes following phacoemulsification with foldable IOL implantation in 25 diabetic and 25 non-diabetic patients. The principal findings were that both groups experienced significant visual improvement after surgery, but diabetic patients demonstrated greater endothelial cell loss and more pronounced postoperative endothelial morphological changes.

In the present study, the two groups were comparable with respect to age, sex, and laterality. The mean age was 65.24 ± 7.18 years in diabetic patients and 63.16 ± 7.42 years in non-diabetic patients (p=0.324). This comparability is important because age itself can influence endothelial cell density and visual outcomes after cataract surgery. Recent comparative studies have similarly enrolled diabetic and non-diabetic patients with broadly comparable demographic characteristics, allowing postoperative differences to be interpreted in relation to diabetes rather than major baseline demographic differences.[8]

Preoperative corneal parameters: In our study, diabetic patients had a somewhat lower preoperative endothelial cell density than non-diabetic patients (2428.6 ± 218.4 vs. 2516.8 ± 205.7 cells/mm²), although the difference was not statistically significant (p=0.151). Similarly, CCT, coefficient of variation, and percentage of hexagonal cells did not differ significantly between the groups before surgery.

This finding is consistent with the meta-analysis by Liang et al., which included 13 studies involving 1,744 eyes and found no statistically significant preoperative differences between diabetic and non-diabetic groups for ECD, CCT, coefficient of variation, or percentage of hexagonal cells. 9,10 The authors suggested that although diabetes may produce subclinical endothelial abnormalities, measurable differences before surgery may not always be apparent. However, a more recent comparative study involving 40 diabetic and 40 non-diabetic patients reported significant differences in endothelial morphology even before surgery, indicating that the effect of diabetes on the corneal endothelium may vary according to disease duration, glycaemic control, and baseline ocular status.[8]

Postoperative endothelial cell loss: A major finding of the present study was the significant postoperative reduction in ECD in both groups. Diabetic patients showed a reduction from 2428.6 to 2151.3 cells/mm², corresponding to 11.4% endothelial cell loss, whereas non-diabetic patients showed a reduction from 2516.8 to 2298.6 cells/mm², corresponding to 8.7% loss. The within-group reductions were highly significant (p<0.001).

The greater endothelial cell loss observed in diabetic patients is consistent with contemporary evidence. A recent study of diabetic and non-diabetic patients undergoing uncomplicated phacoemulsification reported ECD losses of 9.85% and 8.41% at 4 weeks, respectively, in diabetic eyes, compared with 7.09% and 5.74% in controls at the corresponding time points. The investigators concluded that diabetic corneas experienced greater endothelial damage despite good glycaemic control.[8]

Similarly, the meta-analysis by Liang et al. demonstrated significantly lower postoperative ECD in diabetic patients at 1, 3, and 6 months, with weighted mean differences of approximately −167, −164, and −201 cells/mm², respectively. 10 These findings support the observation in our study that diabetes may increase the susceptibility of the corneal endothelium to phacoemulsification-related stress.

The increased vulnerability of the diabetic endothelium may be related to chronic hyperglycaemia-induced metabolic and structural changes within endothelial cells. Diabetes can impair endothelial pump function and reduce the capacity of the cornea to compensate for cell loss following surgical trauma. Thus, even uncomplicated phacoemulsification may produce a greater relative endothelial cell loss in diabetic eyes.

Postoperative endothelial morphology: In the present study, diabetic patients had a significantly

higher postoperative coefficient of variation (43.2 ± 6.1% vs. 39.1 ± 5.2%; p=0.014) and a lower percentage of hexagonal cells (47.6 ± 6.2% vs. 51.9 ± 5.6%; p=0.017) than non-diabetic patients. These findings indicate greater postoperative endothelial morphological irregularity in diabetic eyes.

Our findings are in agreement with the meta-analysis by Liang et al., which demonstrated a significantly higher coefficient of variation and lower hexagonal cell percentage in diabetic patients at 1 month after surgery. 10 Importantly, these differences became less pronounced at later follow-up periods in the pooled analysis, suggesting that endothelial morphology may gradually recover following the initial postoperative insult. A recent comparative study likewise reported significant differences in coefficient of variation and hexagonality between diabetic and non-diabetic groups during postoperative follow-up.[8]

However, not all studies have demonstrated significant differences in every endothelial parameter. Some comparative investigations have reported similar postoperative ECD, CV, and CCT between groups but greater reduction in hexagonality among diabetic patients. 11 Such variation may be explained by differences in surgical technique, phacoemulsification energy, baseline endothelial reserve, duration of diabetes, glycaemic control, and follow-up duration.

Central corneal thickness: The present study showed a postoperative increase in CCT in both groups, with a greater increase in diabetic patients (3.4% vs. 2.2%; p=0.041). However, the absolute postoperative difference in CCT between the groups did not reach statistical significance (p=0.071).

This observation is broadly consistent with previous evidence. Liang et al. found that diabetic patients had significantly greater CCT than non-diabetic patients at 1 and 3 months after surgery, although the difference was no longer significant at 6 months. 10 This suggests that diabetic eyes may experience greater or more prolonged postoperative corneal hydration due to impaired endothelial pump function, followed by gradual restoration of corneal homeostasis.

Visual outcomes: Both groups in our study demonstrated substantial improvement in visual acuity after phacoemulsification. Preoperative BCVA was comparable between diabetic and non-diabetic patients (0.72 ± 0.28 vs. 0.69 ± 0.25 logMAR; p=0.689). Postoperatively, BCVA improved to 0.18 ± 0.12 logMAR in diabetic patients and 0.12 ± 0.09 logMAR in non-diabetic patients. The between-group difference was statistically significant (p=0.048).

These findings are consistent with recent literature indicating that cataract surgery provides substantial visual improvement in diabetic patients, although the final visual acuity may be slightly poorer than in non-diabetic eyes. A large multicentre database study involving 179,159 eyes reported significant visual improvement in both groups, but postoperative VA was slightly worse in diabetic patients than in non-diabetic patients (0.23 vs. 0.13 logMAR). 12 A recent systematic review similarly found marked postoperative improvement in patients with type 2 diabetes, while some comparative studies demonstrated small but statistically significant advantages in postoperative acuity among non-diabetic eyes.[13]

The slightly poorer postoperative visual acuity observed in our diabetic group may reflect the broader effects of diabetes on ocular tissues rather than corneal endothelial changes alone. Diabetic retinopathy, subtle macular changes, diabetic macular edema, and postoperative inflammatory responses can influence visual recovery. Current evidence emphasizes that careful preoperative retinal evaluation and appropriate perioperative management can allow diabetic patients to achieve visual outcomes approaching those of non-diabetic patients.[9]

Association between diabetes and significant endothelial cell loss: In our study, 60.0% of diabetic patients experienced endothelial cell loss of ≥10%, compared with 32.0% of non-diabetic patients, and this difference was statistically significant (p=0.047). This finding further supports the association between diabetes and increased susceptibility to endothelial injury during phacoemulsification.

The recent literature supports this observation. A 2025 prospective comparative study from India evaluating diabetic and non-diabetic patients undergoing phacoemulsification similarly assessed postoperative ECD and endothelial morphology and reinforces the clinical importance of monitoring endothelial parameters in diabetic cataract patients.[14]

More broadly, contemporary reviews emphasize that diabetic eyes may have slower visual and structural recovery following cataract surgery, particularly in the presence of diabetic retinal disease or suboptimal glycaemic control.[9]

CONCLUSION

Phacoemulsification with foldable IOL implantation resulted in significant visual improvement in both diabetic and non-diabetic patients. However, diabetic patients demonstrated greater endothelial cell loss and postoperative morphological alterations, suggesting increased corneal endothelial vulnerability to surgical stress. Careful preoperative endothelial assessment and appropriate postoperative monitoring may be beneficial in diabetic patients undergoing cataract surgery.

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