

Phacoemulsification Cataract Extraction and Intraocular Lens Implantation in Patients With Behçet's Disease

Nilufer Berker, MD; Emel Soykan, MD; Ufuk Elgin, MD; Seyhan Sonar Ozkan, MD

■ **BACKGROUND AND OBJECTIVE:** To evaluate the outcomes of phacoemulsification cataract extraction and intraocular lens implantation in patients with Behçet's disease.

■ **PATIENTS AND METHODS:** This prospective study was based on 40 eyes of 34 patients with Behçet's disease who underwent phacoemulsification cataract extraction and intraocular lens implantation between May 2000 and February 2003. Their postoperative ocular complications and visual outcomes were observed during a mean follow-up period of 18.35 ± 6.17 months (range, 6 to 32 months).

■ **RESULTS:** Postoperative visual acuity increased in 29 eyes (72.5%) and was 20/40 or better in 18 eyes (45%). It decreased in 7 eyes (17.5%), resulting in a

visual acuity of 20/400 or worse. The most frequent postoperative complication was posterior capsular opacification, which developed in 15 eyes (37.5%). Other complications were posterior synechiae formation in 7 eyes (17.5%), severe inflammation in 5 eyes (12.5%), cystoid macular edema in 5 eyes (12.5%), epiretinal membrane in 3 eyes (7.5%), and optic atrophy in 2 eyes (5%).

■ **CONCLUSION:** With appropriate preoperative and postoperative suppression of inflammation, phacoemulsification and intraocular lens implantation are safe procedures leading to visual improvement in patients with Behçet's disease without preexisting fundus lesions.

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INTRODUCTION

Behçet's disease, which was first described by the Turkish dermatologist Hulusi Behçet, is a multisystem disorder characterized by obstructive vasculitis leading

to tissue destruction.¹ It is especially common in Mediterranean and Far Eastern countries. The exact etiology of the disease remains unknown. The major criteria of the disease are orogenital ulcerations, uveitis, and skin lesions such as erythema nodosum.²

Major ocular manifestations of Behçet's disease are iridocyclitis with or without hypopyon, retinal inflammation, and retinal vasculitis.² Cataract is the most common ocular complication of Behçet's disease. It develops as a result of multiple factors, including recurrent intraocular inflammation, posterior synechi-

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ae formation, and corticosteroid therapy.³⁻⁷ As in other types of uveitis, cataract surgery and intraocular lens (IOL) implantation have been considered to cause severe intraocular complications and visual loss in Behçet's disease.^{3,4,8} However, recent improvements in surgical techniques and IOL materials have led to better results of cataract surgery in uveitic eyes.⁹⁻¹¹ Additionally, appropriate preoperative and postoperative suppression of inflammation is essential to achieve better results.^{3-5,12-14}

The aim of this study is to discuss the outcomes of phacoemulsification cataract extraction with IOL implantation in patients with Behçet's disease.

PATIENTS AND METHODS

This study was conducted at the Uveitis Clinic of Ankara Social Insurance (SSK) Eye Hospital between May 2000 and February 2003. Thirty-four patients (40 eyes) with Behçet's disease who underwent phacoemulsification cataract extraction and IOL implantation were prospectively enrolled in this study. All of the patients were observed at the Uveitis Clinic for a mean period of 77.4 ± 20.59 months (range, 36 to 132 months) from the onset of ocular symptoms of Behçet's disease to surgery. The mean postoperative follow-up period, defined as the follow-up period of this study, was 18.35 ± 6.17 months (range, 6 to 32 months).

Medical histories, preoperative ophthalmologic findings, best-corrected visual acuities, and preoperative treatment regimens were recorded for each patient. Phacoemulsification was planned when the visual acuity was 20/60 or worse due to cataract formation. The eyes with poor visual acuity due to retinal lesions were not included, unless the view of the fundus was obscured because of dense cataracts. Surgery was performed when active intraocular inflammation was absent for at least 3 months, defined as the absence of active inflammatory cells in the anterior chamber or in the vitreous and absence of new inflammatory lesions, exudation, and hemorrhage in the retina. Preoperative systemic immunosuppressives were continued if present, and 0.5 mg/kg of oral prednisolone was started for the patients who were not receiving systemic immunosuppressives 3 days before the surgery.

Topical mydriatic drops (cyclopentolate hydrochloride 2% and phenylephrine hydrochloride 10% drops) were instilled four times during the 2 hours before surgery. Local anesthesia was administered via the retrobulbar route. Phacoemulsification was per-

formed by the same surgeon (NB) through a 3.2-mm corneal tunnel incision. Posterior synechiae were lysed under viscoelastic material. After anterior continuous curvilinear capsulorrhexis and hydrodissection, the lens nucleus was removed by phacoemulsification. A foldable acrylic IOL was implanted into the capsular bag. Closure of the corneal incision was sutureless where possible. Subconjunctival injection of betamethasone and gentamicin was performed at the end of the surgery.

Topical dexamethasone sodium phosphate (0.1%) drops were used with frequent instillations for the first postoperative week, continued 5 times daily for the following 2 weeks, and then tapered slowly. Topical antibiotics (fucidic acid) were applied twice daily during the first week. The systemic corticosteroids and immunosuppressives were continued for at least 3 weeks postoperatively, and then tapered gradually. Patients were evaluated daily during the first week, weekly during the first month, and monthly thereafter. The eyes were monitored for postoperative complications and visual outcomes.

RESULTS

Of the 34 patients, 21 were men (24 eyes) and 13 were women (16 eyes). Twenty-eight patients had unilateral operations, and 6 patients had bilateral operations. The mean age of the patients was 36.35 ± 6.56 years (range, 24 to 50 years) at the time of surgery. The mean period from the onset of ocular symptoms of Behçet's disease to surgery was 77.4 ± 20.59 months (range, 36 to 132 months). The mean postoperative follow-up period was 18.35 ± 6.17 months (range, 6 to 32 months). Thirty-seven eyes (92.5%) were observed for more than 12 months, whereas 3 eyes (7.5%) were observed for 6 to 12 months.

Preoperative examinations revealed anterior subcapsular cataract, posterior subcapsular cataract, or both in 22 eyes, and subtotal/total lens opacities in 18 eyes. Posterior synechiae were found in 26 eyes. All eyes were free of active inflammation for at least 3 months prior to surgery. Twenty-two patients (28 eyes) who were not taking systemic medications were given oral prednisolone (0.5 mg/kg/d) 3 days before the surgery. Of the remaining 12 patients, 5 were taking azathioprine (2 mg/kg/d) and 7 were taking cyclosporine A (5 mg/kg/d).

Phacoemulsification and IOL implantation was performed in all eyes. We observed no significant intra-

TABLE 1
Distribution of Preoperative and Postoperative Visual Acuity Levels in 40 Eyes With Behçet's Disease

Visual Acuity	Preoperative No. of Eyes (%)	Postoperative No. of Eyes (%)
CF to 20/400	26 (65)	7 (17.5)
20/200	7 (17.5)	3 (7.5)
20/100	5 (12.5)	2 (5)
20/60	2 (5)	5 (12.5)
20/50	—	5 (12.5)
20/40	—	6 (15)
20/30	—	4 (10)
20/25	—	8 (20)

CF = counting fingers.

operative complications. The distribution of preoperative and postoperative visual acuity levels of 40 eyes are listed in Table 1. Visual acuity increased one or more Snellen lines in 29 eyes (72.5%), with 18 of them (45%) achieving a final acuity of 20/40 or better. Visual acuity remained unchanged in 4 eyes (10%), and decreased in 7 eyes (17.5%) to the level of 20/400 or worse. For eyes with a visual acuity of 20/400 or worse, the poor visual acuity was due to cystoid macular edema in 2 eyes (5%), epiretinal membrane in 3 eyes (7.5%), and optic atrophy in 2 eyes (5%).

The most common postoperative complication was posterior capsule opacification in 15 eyes (37.5%), and 11 of them (27.5%) required Nd:YAG laser capsulotomy. Severe intraocular inflammation with 3+ or more cells in the anterior chamber developed in 5 eyes (12.5%) within the first postoperative month. Cystoid macular edema also occurred in these 5 eyes (12.5%). Posterior synechiae developed in 7 eyes (17.5%) (Table 2).

DISCUSSION

Cataract surgery in uveitic eyes may lead to severe postoperative complications including recurrent intraocular inflammation, posterior capsule opacification, posterior synechiae formation, cystoid macular edema, optic atrophy, and even phthisis bulbi.^{5,6,12-15} These complications have become even more common with the techniques of intracapsular or extracapsular

TABLE 2
Postoperative Complications of Phacoemulsification and Intraocular Lens Implantation in 40 Eyes With Behçet's Disease

Complication	No. of Eyes (%)
Posterior capsule opacification	15 (37.5)
Posterior synechiae	7 (17.5)
Severe inflammation	5 (12.5)
Cystoid macular edema	5 (12.5)
Epiretinal membrane*	3 (7.5)
Optic atrophy*	2 (5)

**Probably present before surgery and obscured due to poor fundus view.*

cataract extraction and pars plana lensectomy.^{4,6-8,12,14} Currently, most authors agree that the phacoemulsification technique is superior to the others.^{6,7,10,13,16,17} With this technique, the surgical trauma is minimal and it is possible to insert the IOL into the capsular bag, which reduces the postoperative inflammation risk by avoiding contact by the IOL with the iris and ciliary body.

Patients should receive immunosuppressive therapy prior to cataract surgery to reduce inflammation and surgery should be deferred until the eyes are free of active inflammation for 2 to 3 months.^{3-5,12,14} Matsuo et al. suggested an even longer waiting period of at least half a year with no ocular attacks to reduce the risk of postoperative attacks.¹³ Inadequate suppression of inflammation can cause uncontrollable inflammatory attacks in the postoperative period. In our study, phacoemulsification was performed when the uveitis was inactive for at least 3 months. Additionally, all patients started to take immunosuppressive agents at least 3 days prior to surgery and continued taking them for at least 1 month postoperatively. Despite these precautions, severe postoperative inflammation developed in 5 eyes (12.5%). A severe course of the disease before the surgery was the common feature of eyes with postoperative inflammation, which was also suggested by Hiraoka et al.⁶

Posterior capsule opacification is the most common complication of phacoemulsification in uveitic eyes.^{3,14,15,18} Chung and Yeh reported posterior capsule opacification in 50% of their cases with Behçet's disease.¹⁴ In our study, we observed posterior capsule opacification in 37.5% of the eyes. Similar to previous find-

ings, posterior capsule opacification in our study was attributed to the young age of patients, postoperative intraocular inflammation, and the nature of uveitis in Behçet's disease.^{3,14,15,18} The opacifications were successfully treated by Nd:YAG laser capsulotomy as required.

The visual prognosis following cataract extraction has been reported to depend on fundus pathologies such as inflammatory macular edema, macular degeneration, and optic atrophy.^{3-5,14,19} The main factors restricting vision in our patients were cystoid macular edema, optic atrophy, and epiretinal membrane. Cystoid macular edema developed in the eyes with severe postoperative inflammation. Okhravi et al. also experienced postoperative macular edema in eyes with severe postoperative uveitis.¹⁹ Optic atrophy and epiretinal membrane were probably present preoperatively in the eyes with limited fundus views. Postoperative visual acuity improved in 29 eyes (72.5%) and was 20/40 or better in 18 eyes (45%).

Our results are similar to those of Kadayifcilar et al., who reported visual improvement in 87.8% of eyes, with 42.4% of the eyes having a visual acuity of 20/40 or better.⁵ Other previous studies observing the outcomes of cataract surgery in Behçet's disease also reported similar visual acuity results.^{6,13} Some studies had even better visual results than ours, probably because they included uveitic entities with better course and without retinal involvement such as Fuchs' uveitis and ankylosing spondylitis.^{10,14}

Phacoemulsification cataract extraction and endocapsular IOL implantation appear to be safe procedures with favorable visual results in patients with Behçet's disease without severe fundus devastation. Appropriate preoperative and postoperative suppression of inflammation and correct timing of the surgery are vital points to reduce the postoperative complications and to achieve better visual outcomes.

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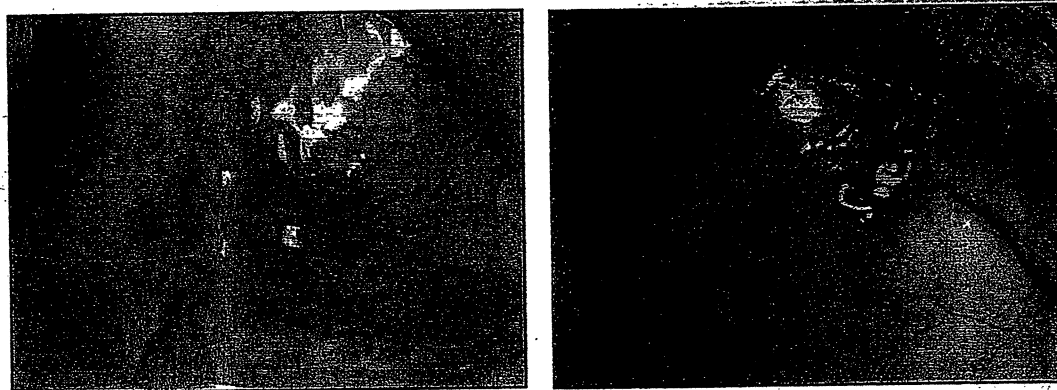
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