



Phacoemulsification in Eyes With Post-Trabeculectomy Choroidal Detachment

Artemios S. Kandarakis, MD, PhD George A. Kontadakis, MD, MSc, Chrysostomos Dimitriou, MD, Stylianos A. Kandarakis, MD, Iordanis Chatziangelides, MD, Dimitrios Karagiannis, MD, PhD

Ophthalmiatreio Eye Hospital of Athens, Athens, Greece



- Non of the authors has a financial interest in the subject matter of this poster.

Introduction-Background

- Choroidal detachment is a complication of trabeculectomy and other glaucoma filtration surgical interventions that may have devastating sight-threatening consequences. The incidence of choroidal detachment after glaucoma filtering surgery has increased significantly with the use of antimetabolites due to the increased postoperative hypotony
- Phacoemulsification have been reported to be useful for the resolution of ocular hypotony after trabeculectomy but, to the best of our knowledge, safety of phacoemulsification in eyes with underlying choroidal detachment has not been reported in the literature.

Purpose:

In this clinical cohort study, we aimed to evaluate the potential for safe cataract extraction in eyes with coexisting chronic choroidal detachment after trabeculectomy.

Methods:

Patients

- Four patients developed choroidal detachment within three months after trabeculectomy, documented with b-scan ultrasonography (BUS) and ultrasound biomicroscopy (UBM). Intraocular pressure (IOP) of the patients ranged from 3 to 5 mmHg. Patients were treated with cycloplegia and steroids without complete resolution of detachment. Twelve months later all patients had developed visually significant cataracts and underwent phacoemulsification and intraocular lens implantation

Methods:

Surgical technique

- All patients underwent uncomplicated torsional phacoemulsification using a stop-and-chop technique. The procedure was performed under topical anesthesia through a 2.4mm incision with the aid of a dispersive ophthalmic viscosurgical device (OVD). At all times during the surgery, hypotony was avoided by adding either OVD or balanced salt solution through the paracentesis simultaneous with removal of instruments or handpieces from the eye. A three-piece soft hydrophobic acrylic intraocular lens was implanted in the capsular bag at the end of each case. Surgery was uncomplicated in all cases, despite the fact that it was performed with almost complete absence of red reflex and fundus visualization due to choroidal detachments obstructing retro-illumination.

Results

- Postoperatively, patients were given topical steroids with fast tapering regimen. All patients had improvement of CDVA in the first postoperative month. Intraocular pressure in all our patients demonstrated an increase which was maintained up to 1 year postoperatively. Regarding the choroidal detachment, BUS and UBM were repeated in the first postoperative month follow up and demonstrated a complete resolution of choroidal detachment in all our cases

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Pre- and post-operative parameters of the operated patients

Patient #	age	Preoperative VA (LogMAR)	Preoperative IOP (mmHg)	1 month postoperative VA (LogMAR)	1 month postoperative IOP (mmHg)	12 months postoperative VA (LogMAR)	12 months postoperative IOP (mmHg)
1	67	CF	3	0,1	8	0,1	9
2	73	1.3	4	0,1	12	0	10
3	69	CF	5	0	11	0	10
4	70	1.3	5	0	10	0	9

VA: visual acuity, IOP: intraocular pressure

Results

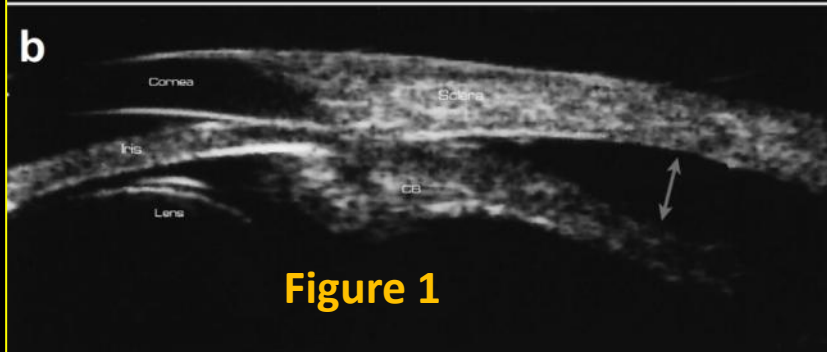
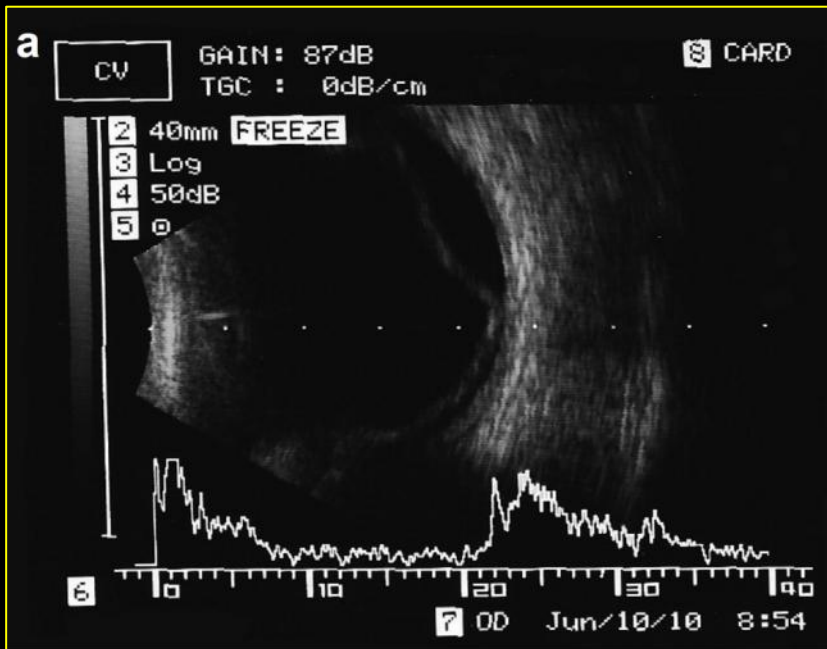


Figure 1

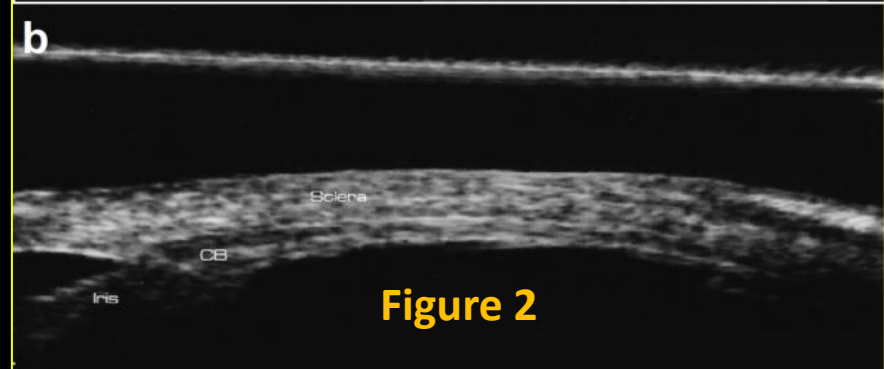


Figure 2

- **Figure 1.** (a): B-scan ultrasonography (BUS) of the right eye of a 67-year-old woman showing choroidal detachment (Patient 1). (b): Ultrasound biomicroscopy (UBM) of the right eye of patient 1 revealing ciliary body detachment
- **Figure 2.** (a): BUS of the right eye of patient 1, one month after phaco demonstrating choroidal reattachment. (b) UBM of the right eye of patient 1, one month after phaco confirming ciliary body reattachment.

Conclusion

In conclusion, phacoemulsification seems to be a justifiable intervention for visual improvement in eyes with underlying chronic choroidal detachment.

Appropriate preoperative assessment, intraoperative precautions and meticulous postoperative care are of paramount importance in delivering optimal results. In our case series we have described the potential resolution of choroidal detachment following phacoemulsification. We postulated that intraoperative and postoperative elevation of IOP can lead to mechanical drainage of the suprachoroidal fluid. Further studies and larger case series are needed to establish the safety of this approach for patients with coincident cataract and choroidal detachment.