

Acute full-thickness macular hole after uneventful femtosecond-assisted cataract surgery and its spontaneous closure

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Key words: Complications of cataract surgery, femtosecond assisted cataract surgery, macular hole, spontaneous closure

Full-thickness macular hole (FTMH) is a very rare complication of modern day cataract surgery.^[1] Although the exact etiology is unknown, anteroposterior vitreous forces are thought to induce acute posterior vitreous detachment (PVD) or traction around the fovea resulting in macular hole formation.^[2]

We present this photo essay to highlight the importance of incorporating ocular coherence tomography (OCT) and comprehensive ocular examination as a part of preoperative workup for cataract surgery.

Case Presentation

A 67-year-old female with visually significant cataract (visual acuity 20/80) in her left eye came for cataract consult. Rest of examination including her fellow eye was unremarkable [Fig. 1]. After counseling, she underwent uneventful femtosecond-assisted cataract surgery (ALCON LENSx platform) with implantation of multifocal intraocular lens (MF-IOL).

At 2 weeks' follow-up, her left eye visual acuity was still 20/80, and she complained of metamorphopsia. Anterior segment examination revealed well-centered MF-IOL. Fundus examination revealed an FTMH confirmed on OCT [Fig. 2a and b]. Interestingly, we also noted focal foveal vitreomacular adhesions (VMA) which were not seen preoperatively. Since the macular hole was small (<400 μ) and we were clueless for the cause of it, we preferred to observe it with close follow-ups.

One-month postoperatively, she reported improvement in the left eye visual acuity to 20/40. OCT revealed partial closure of macular hole with a resolution of VMA [Fig. 2c and d]. At

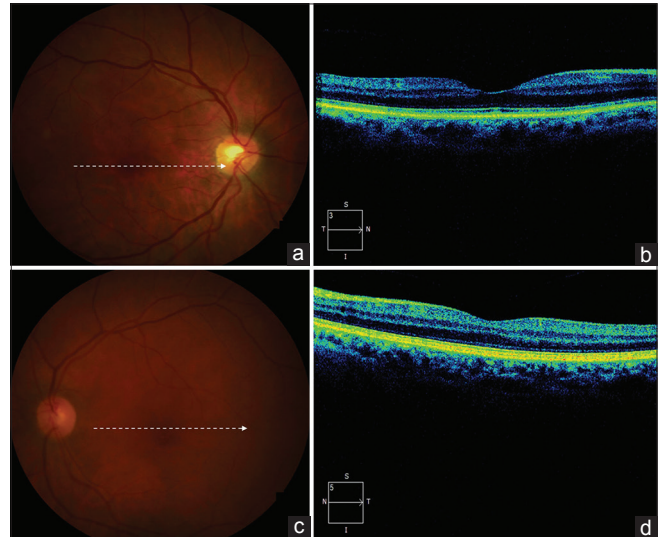


Figure 1: Preoperative color fundus photographs and horizontal raster ocular coherence tomography images of right eye (a and b) and left eye (c and d). Please note haziness of left fundus photograph secondary to cataract

3 months, visual acuity was restored to 20/20 with complete closure of macular hole and subjective improvement of metamorphopsia [Fig. 2e and f]. She maintained a visual acuity of 20/20 without metamorphopsia at 6 months and 1 year visits.

Discussion

Comprehensive ocular examination coupled with detailed assessment of optic disc and macula is inarguably an essential key to diagnose and treat the majority of intraocular disorders. OCT has been accepted as the most accurate and reliable

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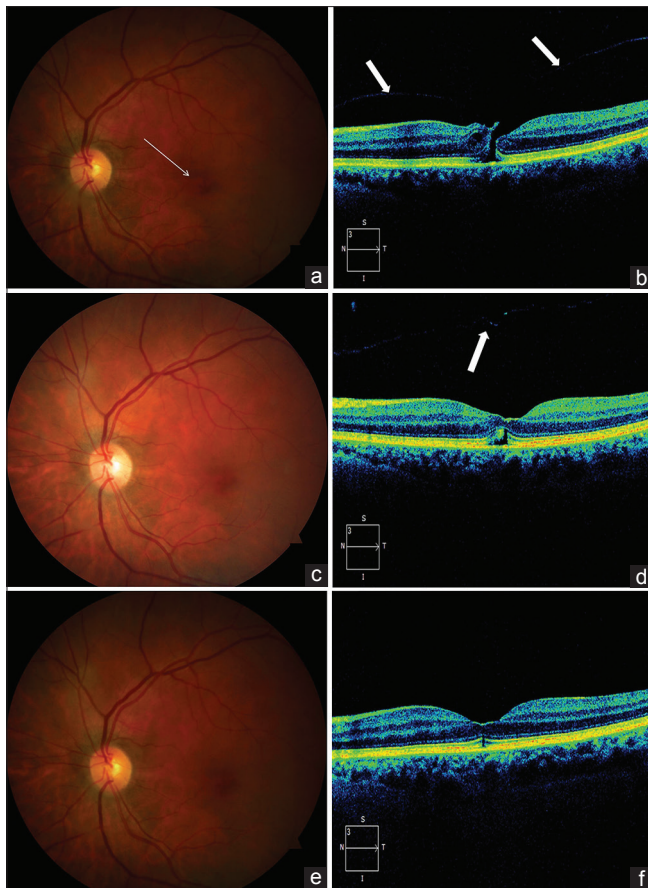


Figure 2: Composite postoperative images of the left eye at 15 days (a) Fundus photograph showing small macular hole (arrow-line). (b) horizontal raster ocular coherence tomography image confirming small full thickness macular hole with central focal vitreomacular adhesions (block arrow). (c and d) 1 month follow-up fundus photograph and horizontal raster ocular coherence tomography image documenting spontaneous resolution of vitreomacular adhesions (block arrow) and closure of macular hole. (e and f) 3 months' follow-up fundus photographs and horizontal raster ocular coherence tomography image showing complete closure of macular hole

diagnostic tool for assessment of optic disc and macular disorders.^[3,4] And so today OCT has become an indispensable diagnostic armamentarium of every ophthalmologist.

Conclusion

We believe acute PVD with subclinical anomalous VMA triggered by cataract surgery responsible for FTMH in our case. This case illustrates the role of OCT in diagnosing and managing vitreoretinal interface anomalies. Furthermore, it highlights the possibility of spontaneous closure of full-thickness macular hole after cataract surgery with good visual outcome.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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