

Apparent double macular hole caused by vitreomacular traction

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Key words: Color photo, double macular hole, microperimetry, red-free image, vitreomacular traction

A 60-year-old female presented with decreased vision in right eye for 3 months. Her best-corrected visual acuity in right eye was 20/200 and 20/20 in left eye. Both her eyes were pseudophakic. Posterior segment examination of right eye showed two vertically oriented full-thickness macular holes (FTMH) with a bridging retinal tissue in between them. The superior hole was larger in size and temporal in location compared to the inferior one. The combined vertical base diameter, assuming both to be a single macular hole, was 1997 μm [Fig. 1].

Optical coherence tomography (OCT) showed persistent vitreomacular adherence causing significant traction and two vertically oriented FTMH separated by a bridging strip of retinal tissue [Fig. 2]. Microperimetry showed poor sensitivity in the region of the two holes, but moderate sensitivity in

the area of bridging strip of retinal tissue between the two holes [Fig. 3].

The patient underwent conventional macular hole surgery, i.e., 25G pars plana vitrectomy, posterior vitreous detachment induction, internal limiting membrane peeling around the holes, and gas tamponade. Following surgery, type-1 closure was achieved [Fig. 4]. However, there was no improvement in vision.

Discussion

Apparent double macular hole is a rare entity, with only one *de novo* case reported previously, i.e., by Cheng *et al.* in 2000. They reported a female who had two holes, which later coalesced into a single large MH after a period of 10 weeks.^[1] Peiretti *et al.* reported a case of "apparent" double macular hole, where one partial-thickness MH along with one FTMH gave the appearance double macular hole.^[2] Li *et al.* and Khurana reported one case each, where double macular hole developed after vitrectomy for vitreomacular traction (VMT) syndrome and rhegmatogenous retinal detachment, respectively.^[3,4]

Cheng *et al.* hypothesized that the apparent double macular hole can develop due to uneven traction at the various points of focal attachments in the region of foveal and perifoveal region.^[1] The OCT images in our case show such a vitreomacular adherence causing significant traction, resulting in two macular holes.

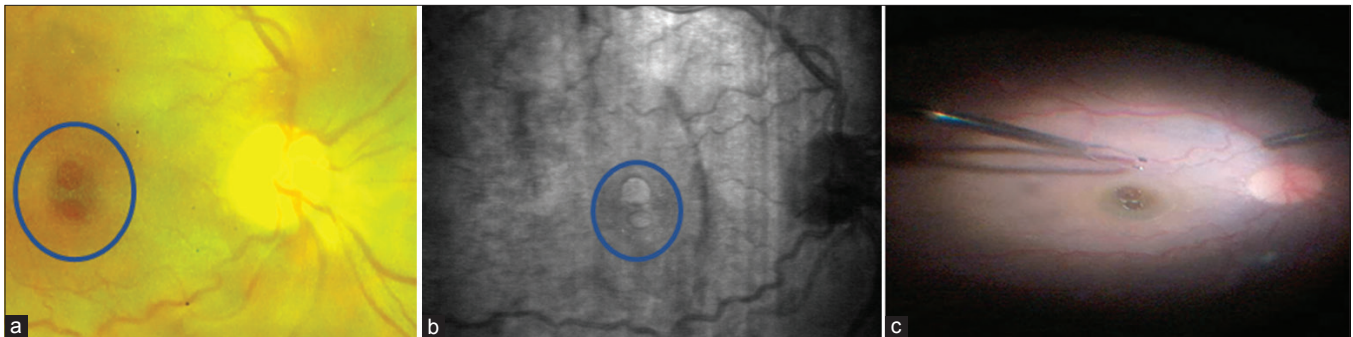


Figure 1: (a) Color photo showing two vertically oriented macular holes separated by a bridging retinal tissue, (b) red-free image showing the double macular hole, (c) intraoperative photograph before the start of internal limiting membrane peeling

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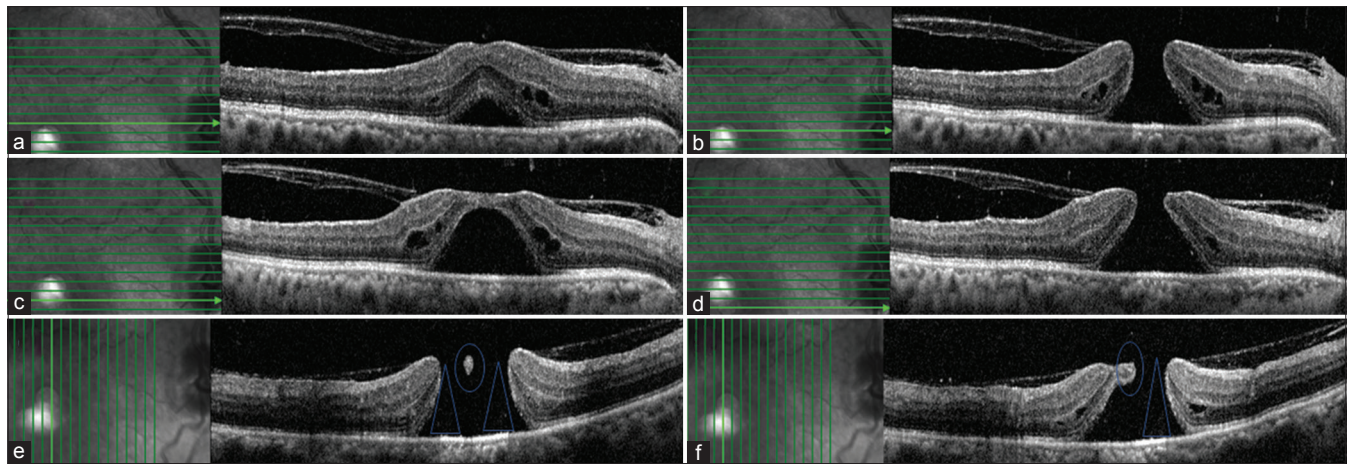


Figure 2: (a-d) Optical coherence tomography (OCT)-horizontal line scans through macula showing (a) neurosensory detachment and vitreomacular traction, (b) superior full-thickness macular hole (FTMH) with base diameter (BD) of 1769 μm , (c) bridging retinal tissue, (d) inferior FTMH with BD of 1612 μm ; (e and f) OCT-vertical line scans (from below upward) through macula showing (e) inferior hole (triangle on left), bridging retinal tissue in between (circle) and superior hole (triangle on right), and (f) inferior bridging tissue (circle) and superior hole (triangle)

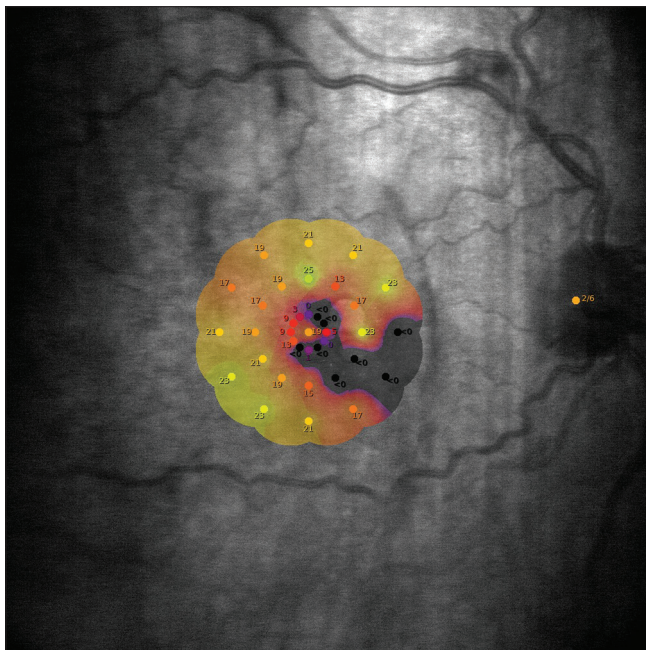


Figure 3: Sensitivity map of microperimetry showing some sensitivity in the area of bridging strip of retinal tissue between the two holes

We report a rare case of apparent double FTMH caused by VMT. We also report the microperimetry in such a case, which has not been documented earlier to the best of our knowledge.

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

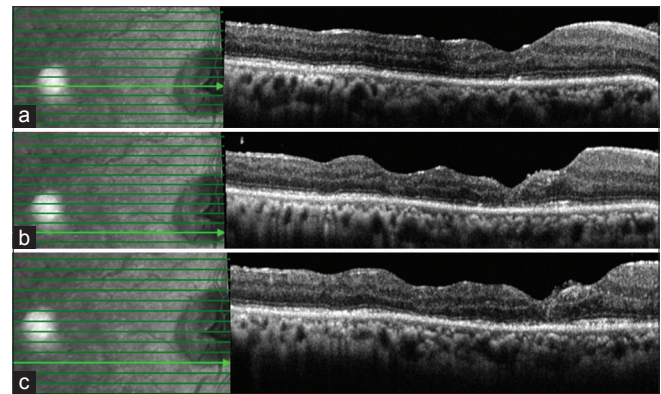


Figure 4: Horizontal line scans of optical coherence tomography through macula showing Type 1 closure passing through the region of pre-operative (a) superior macular hole, (b) bridging retinal tissue, and (c) inferior macular hole

and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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