Macular Hole Secondary to Fungal Endophthalmitis

Endogenous fungal endophthalmitis is a well-recognized, vision-threatening disorder commonly seen in immunocompromised patients. One of the clinical findings of fungal endophthalmitis is a white, circumscribed region of chorioretinitis, called a focus, which often results in a hypopigmented scar even if antifungal therapy is successful. We report a rare case of endogenous fungal endophthalmitis that led to a macular hole (MH).

Report of a Case. A 53-year-old woman visited our clinic, requesting a second opinion on her treatment for fungal endophthalmitis following intravenous hyperalimentation after thyroid cancer surgery. Her best-corrected visual acuity was 20/20 with −7.0 diopter sphere (DS) OD, and 20/200 with −7.0 DS OS. Slitlamp examination revealed a mild inflammatory response in the vitreous of both eyes. Fundus examination showed a focus involving the macula and surrounding retinal hemorrhages in the left eye (Figure 1). Foci that did not involve the macula were present in either eye. According to the referral letter, her blood culture was positive for Candida albicans, and intravenous administration of fluconazole (200 mg/d) had already been given for approximately 4 weeks, which seemed to be effective. The patient was therefore advised to continue the treatment at the previous hospital.

Five months after the initial visit, the patient again visited our clinic. She had noticed an increase of metamorphopsia around the central blind area, which began approximately 3 months previously. Her best-corrected visual acuity was 20/20 OD and 20/100 OS. No inflammatory response was observed in either eye. Fundus examination of the left eye showed a circular MH with a vertical diameter of 920 µm, a Weiss ring, and an operculum above the macula. Optical coherence tomography (OCT) showed that the edges of the MH were swollen (Figure 1).

To prevent further visual deterioration, a pars plana vitrectomy with internal limiting membrane removal and 12% perfluoropropane gas tamponade were performed on the left eye. Histopathologic examination of the operculum revealed a neurosensory retinal component and pigment-laden macrophages (Figure 2). After the surgery, a flattening of the MH edge was observed; however, the visual acuity remained unchanged.

Comment. Vitreoretinal complications following fungal endophthalmitis include epiretinal membranes, traction and/or rhegmatogenous retinal detachments, and choroidal neovascularization. However, an MH secondary to fungal endophthalmitis seems to be very rare; only 1 case has been reported, to our knowledge. That patient was a 51-year-old woman who developed an MH adjacent to a focus but not at a preexisting focus as in our patient.

Although the mechanism of MH formation in our patient is unclear, the presence of a Weiss ring at the second visit and the existence of sensory retinal components in the operculum suggest that
the sensory retina, including the focus, was torn from the surrounding retina when a posterior vitreous detachment occurred. In addition to the high myopia and age of 53 years, vitreous inflammation may have facilitated the development of the posterior vitreous detachment. Ophthalmologists should be aware that, although rare, an MH can develop secondary to fungal endophthalmitis.

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Rosai-Dorfman Disease With Bilateral Serous Retinal Detachment

Rosai-Dorfman disease (RDD) is a rare idiopathic disorder affecting predominantly young adults.1 A bilateral massive painless enlargement of lymph nodes, predominantly in the cervical area, characterizes the disease. Additionally, several ophthalmic manifestations involving the eyelid, orbit, and lacrimal gland have been reported.2,3 The soft tissue surrounding the eye is infiltrated by a circumscribed rubbery, nontender mass, leading to variety of clinical signs and symptoms, eg, exophthalmos, blepharoptosis, conjunctivitis, keratitis, diplopia, dry eyes, and photophobia. The involvement of intraocular structures is less frequently described.4,5 We report a case of RDD with bilateral serous retinal detachments and its resolution after pharmacologic treatment.

Report of a Case. A 60-year-old man with bilateral enlarged inguinal lymph nodes underwent a biopsy and was diagnosed as having RDD (Figure 1B). Two years later, the patient noticed a decrease in his visual acuity. His visual acuity was 20/40 OD and 20/50 OS. On slit-lamp examination, anterior uveitis with cells in the anterior chamber was seen. Biomicroscopy demonstrated mild macular edema and some focal hyperpigmentations in the midperiphery of both fundi. Although the patient was treated with topical corticosteroids, his visual acuity decreased to 20/100 OU during the next 6 months. During this period, the patient developed massive bilateral serous retinal detachments with shifting fluids in the inferior quadrant; these detachments remained during the next 2 years. B-scan ultrasound demonstrated a retinal detachment with underlying sonolucent choroidal thickening (Figure 2A). Because of the long-term retinal detachment, we considered antimitabolic therapy, and treated the patient daily with 50 mg of prednisolone orally and 3 times per day with 2% cyclosporine eye drops for 10 weeks. During this time, the patient’s visual acuity increased to

![Figure 2 A](image1.png)  ![Figure 2 B](image2.png)

Figure 2. A. Photomicrograph of the operculum. A cellular fragment composed of numerous round cells with a smooth inner surface (vitreous side) and an irregular and edematous outer surface is present. Pigment-containing cells are present in the operculum (bar = 50 µm) (original magnification ×320). B, Transmission electron photograph of the operculum. Numerous neural cells, with round to oval heterochromatic nuclei measuring 5 to 7 µm in diameter, and some foci with degenerative changes, are present. Many cells have some elongated mitochondria, vesicles of smooth-surface endoplasmic reticulum, and a moderate amount of free ribosomes in their cytoplasm. Many neurotubules are aggregated around the nuclei of these cells (bar = 5 µm) (original magnification ×1500). The inset shows high magnification of the transmission electron micrograph of the operculum. A cross-section of a bundle of neurotubules 20 to 30 nm in diameter is shown (arrow) around the neural cells (bar = 500 nm) (original magnification ×17000).