Case Report/รายงานผู้ป่วย

Myopic Foveal Retinoschisis and Detachment: รายงานผู้ป่วย

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บทคัดย่อ

Myopic foveal retinoschisis (MFR) มีรายงานว่าพบในตาที่มีสายตาสั้นมาก บางรายมี foveal detachment คณะผู้ศึกษาได้รายงานผู้ป่วยหญิงวัยกลางคน 1 ราย มาด้วยอาการตามัว จากการตรวจร่างกาย ตรวจด้วย fluorescein angiography และ optical coherence tomography ได้รับการวินิจฉัยว่าเป็น myopic foveal retinoschisis จากการรักษาโดยการผ่าตัด vitrectomy with posterior hyaloid stripping, internal limiting membrane peeling และ fluid-gas exchange ทำให้ retinoschisis หายไปและผู้ป่วยมีสายตาดีขึ้น **จักษุเวชสาร 2550 ; มกราคม-มิถุนายน 21(1) : 52-57.**

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Case Report/รายงานผู้ป่วย

Myopic Foveal Retinoschisis and Detachment: A Case Report

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Abstract

Myopic foveal retinoschisis (MFR) is observed in highly myopic eyes and is sometimes associated with foveal detachment. We here present a highly myopic, middle-aged woman with recent onset unilateral visual loss. Physical examination, fluorescein angiography, and optical coherence tomography ensured the diagnosis of MFR with foveal detachment. She underwent a vitrectomy with posterior hyaloid stripping, internal limiting membrane peeling, and fluid-gas exchange. Anatomical and functional successes were obtained. **Thai J Ophthalmol 2007 ; January-June 21(1) : 52-57.**

Keywords: *myopic foveal retinoschisis, foveal detachment*

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Introduction

Myopic foveal retinoschisis (MFR) has been observed in highly myopic eyes with posterior staphyloma.[1,2] Optical coherence tomography (OCT) greatly facilitates the diagnosis of this condition.[3] Vitreous surgery has been reported in improving both anatomical and functional outcomes.[4,5]

Case report

A 52-year-old woman disclosed visual loss and metamorphopsia in her right eye for one day when she closed her left eye. Her best corrected visual acuity (BCVA) was 4/200 OD and 20/20 OS. She had undergone cataract surgery with intraocular lens implantation in both eyes 7 years earlier. Her refractive error prior to cataract surgery was -14.0 and -9.0 diopters. Fundus examination revealed a cystic change of the central fovea in her affected eye (figure 1a). Fluorescein angiography found a central hyperfluorescent spot in the area of cystic fovea without any leakage (figure 1b-c). Optical coherence tomography (OCT) showed an extensive cleavage of outer retina throughout the posterior pole and a detachment of the fovea (figure 2a). Diagnosis was made as myopic foveal retinoschisis with foveal detachment. The other eye appeared normal. She underwent a pars plana vitrectomy, posterior hyaloid stripping, triamcinolone acetonide-assisted internal limiting membrane peeling, and fluid-gas exchange with 20% sulfur hexafluoride gas. At week 6, due to incomplete reattachment of the fovea (figure 2b), fluid-gas exchange with 16% perfluoropropane gas was performed. At 6 months follow-up, her BCVA improved to 20/100, and the fovea was completely flattened and central foveal thickness reduced from 729 microns to 186 microns (figure 2c). With 18 months follow-up, visual acuity and OCT findings remained unchanged.

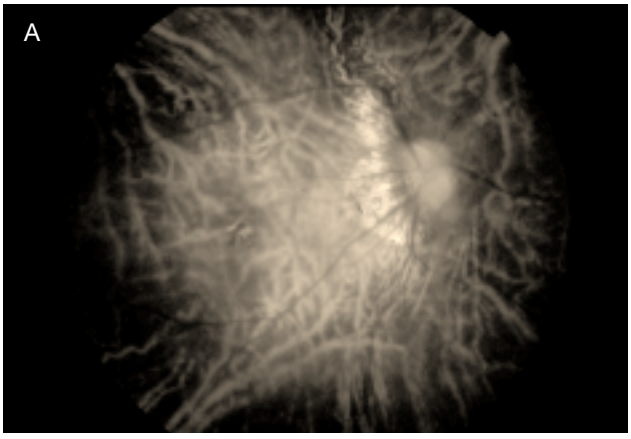
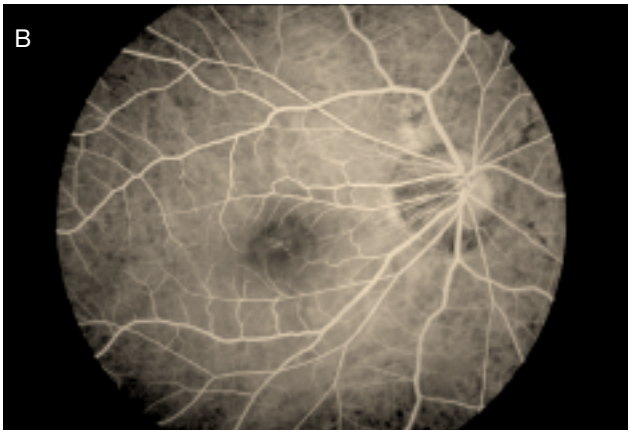


Figure 1a. *Preoperative fundus photograph showed tilt disc,and cystic change of the central fovea. (รูปสีท้ายเล่ม)*



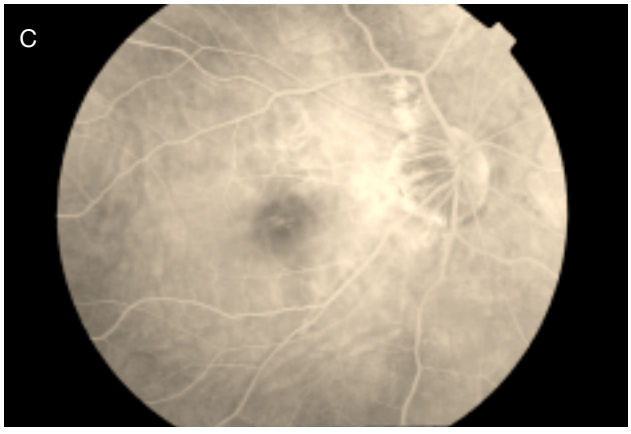


Figure 1b-c. *Fluorescein angiography showed RPE window defect in the area of cystic fovea. 1b (early phase) 1c (late phase)*

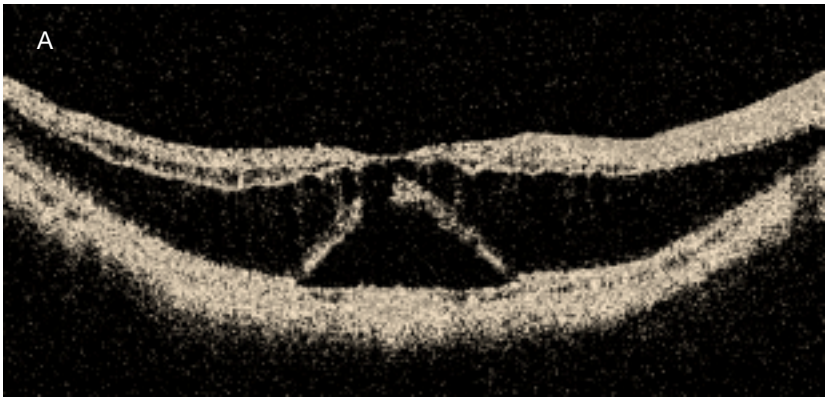


Figure 2a. *Preoperative horizontal scan OCT showed an extensive cleavage of outer retina throughout the posterior pole and a detachment of the fovea. (รูปสีท้ายเล่ม)*

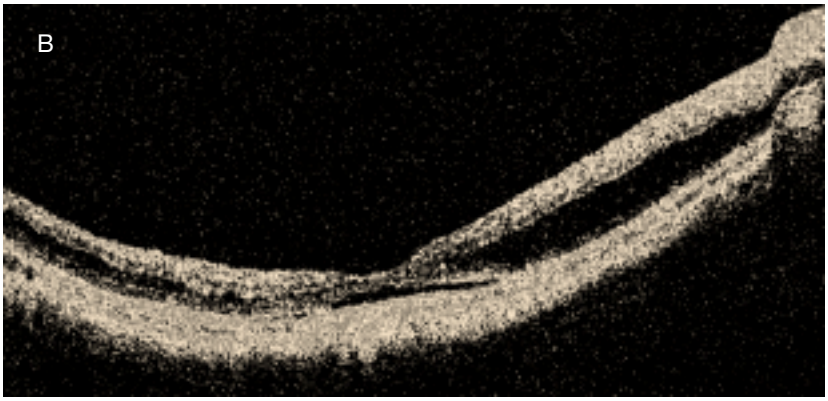


Figure 2b. *Six- week postoperative horizontal scan OCT showed partial reduction of retinoschisis and detachment. (รูปสีท้ายเล่ม)*

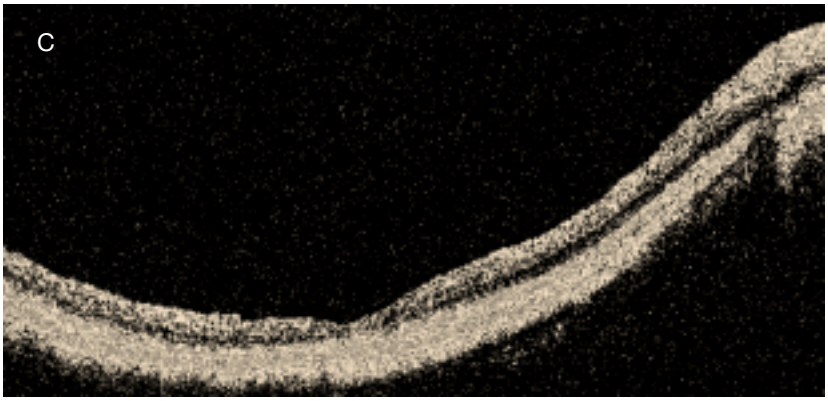


Figure 2c. *Six months after vitrectomy, horizontal scan OCT demonstrated complete resolution of retinoschisis and detachment. (รูปสีท้ายเล่ม)*

Discussion

Myopic foveal retinoschisis (MFR) is not uncommon in highly myopic eyes with posterior staphyloma formation and is sometimes associated with foveal detachment.[1,2] Prevalence of MFR without a macular hole in eyes with severely high myopia and posterior staphyloma, detected by optical coherence tomography (OCT), was reported to be 9%[1], 20%[3] and 34%.[2] Refractive error of eyes with MFR from previous reports[1,4,5] was more than -10 diopters (D) in all but one eye (-7.5 D) and axial length ranged from 26.5 to 32.2 mm.

Because of the characteristic and confounding features of the choroid, retina, and vitreoretinal interface in degenerative myopia (ie, tigroid fundus, thin retina, areas of choriocapillaris atrophy, retinal pigment epithelium hypopigmentation and/or hyperpigmentation, posterior staphyloma, etc), the presence of MFR can be underdiagnosed by clinical examination.[3] OCT with cross-sectional images of the retina greatly facilitates the study of posterior vitreoretinal anatomy in eyes with high myopia and allows the detection of subtle macular changes that are otherwise undetectable.[3]

As described by Benhamou at al[6], OCT was able to show intraretinal cleavage planes at different levels. Of 21 eyes, widespread outer retinos-chisis in the posterior pole was present in all eyes, more peripheral inner retinoschisis in 6 eyes (28.6%), and localized retinal detachment in 5 eyes (23.8%). Foveal detachment was found in 5 (23.8%) of 21 eyes[6] and in 9 (81.8%) of 11 eyes with MFR. Two of 4 eyes with preretinal vitreous traction to the macula subsequently evolved into a full-thickness macular hole.[6] Vitrectomy with removal of premacular vitreous cortex may prevent subsequent macular hole formation.[5] Removal of the internal limiting membrane ensures complete removal of the overlying premacular vitreous cortex and myofibroblasts on the internal limiting membrane.[7]

Vitrectomy for foveal retinoschisis and detachment without a macular hole in highly myopic eyes has been reported to reattach the retina and improve vision in 8 of 9 eyes in Kobayashi's series[5] and 4 of 5 eyes in Ikuno's series[4], and to possibly prevent macular hole formation.[4,5] We here presented a case of myopic foveal retinoschisis and detachment which was successfully treated by vitreous surgery by technique reported previously.[5] In order to establish indications for this surgery, the natural course of the disease should be studied further.

Conclusion

OCT provides a definitive diagnosis for myopic foveal retinoschisis and detachment. Vitreous surgery might have a role in management of myopic foveal retinoschisis and detachment in highly myopic eyes in prevention of macular hole formation.

References

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