

CASE REPORT

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Chorioretinal Folds in a Patient with Macula Sparing Malign Hypertensive Retinopathy

 **Mahmut Oğuz Ulusoy, MD**

Baskent University Faculty of Medicine, Konya Research Hospital, Ophthalmology Department, Konya, Turkey

Abstract

To report a case about chorioretinal folds in a patient with malignant hypertensive retinopathy. Chorioretinal folds are associated with several pathologies, especially with papilledema or similar situations. Persistent folds usually occur with longstanding pathologies. However, as seen in this case, these chorioretinal folds do not need permanent and long standing changes.

Introduction

Choroidal folds are the fundus appearance of striations in the posterior pole and may be horizontal, vertical, or oblique, and rarely ever extend beyond the equator. (1) Choroidal folds can be seen in association with orbital inflammation, orbital infections, dysthyroid eye disease, hypermetropia, and following scleral buckling, a non-specific sign of orbital tumours, hypotony, papilloedema, intracranial hypertension, microgravity space flight or hyperopia. (2-7)

These folds develop when the forces are applied to the choroid and retinal layers, which are compliant substrate. (8) Although the pathophysiology of optic nerve head (ONH) swelling in several pathologies differ, the volumetric swelling of the ONH is a common structural entity.

In our report, we demonstrate chorioretinal folds in a patient with macula sparing malignant hypertensive retinopathy.

Case

A forty-eight years old male patient was referred to our clinic with complaint of visual loss. His visual acuities were 20/20 on the right eye (+1,50) and 20/20 left eye (+2,00). Intraocular pressures were 14 mmHg in right eye and 13 mmHg in the left eye. Anterior segment were bilaterally normal. On fundus examination, bilaterally optic disc head swelling, cotton wool spots, hard exudates and macular wrinkles were present. (Figure 1) On the spectral domain optical coherence tomography (SD-OCT) evaluation chorioretinal folds were seen at bilateral macular section. (Figure 2)

Cardiologic examination of this patient revealed acute malignant hypertensive crisis with 240/130 mmHg blood pressure. Antihypertensive therapy was initiated. At patient's 3. month control, the visual acuities were same and the optic disc swelling and cotton wool spots disappeared however macular chorioretinal folds were present on both fundus examination and SD-OCT images. (Figure 3,4)

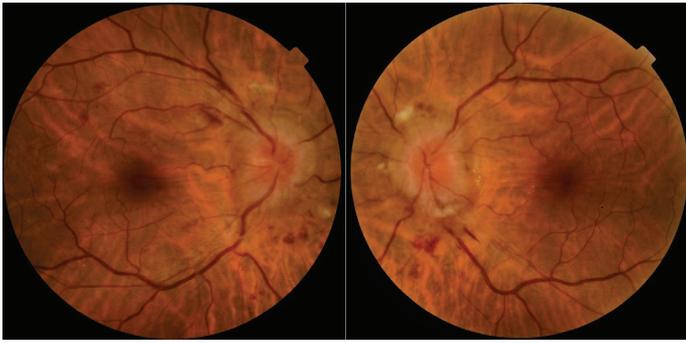


Figure 1: Color Fundus Photograph of right and left eye at the first evaluation.

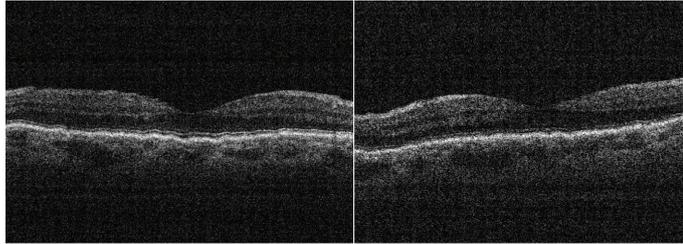


Figure 2: Spectral domain optical coherence tomography image of macula of right and left eye at the first evaluation.

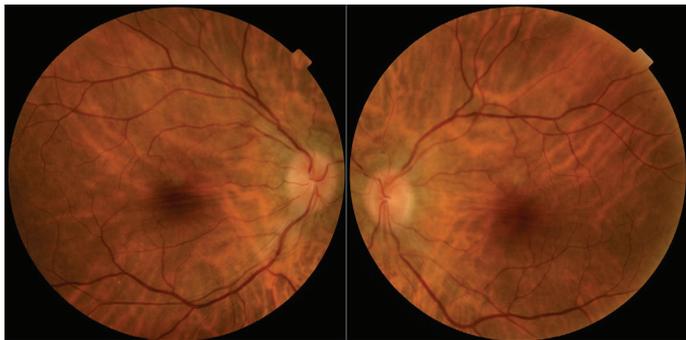


Figure 3: Color Fundus Photograph of right and left eye at last evaluation.

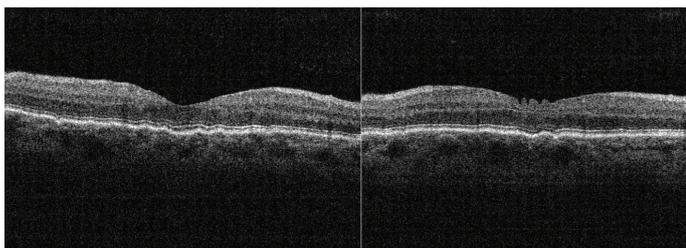


Figure 4: Spectral domain optical coherence tomography image of macula of right and left eye at last evaluation.

Discussion

In this report, we presented persistent chorioretinal folds after macular sparing malignant hypertensive retinopathy. As described previously, chorioretinal folds are associated with several pathologies. (2-7) Although most of the acquired chorioretinal folds and hyperopia usually regress in orbital mass patients after successful tumor removal, some of these patients and the other pathologies persist. (9,10)

Mechanism of chorioretinal folds associated with the papilloedema is suggested as transmission of increased cerebrospinal fluid pressure from subarachnoid space of the optic nerve to the posterior ocular wall. (11) The persistence of the choroidal folds has been attributed to scleral remodelling after long-standing compression. (12)

A hypertensive emergency is defined as a sudden increase in systolic and diastolic blood pressure associated with end organ damage of the central nervous system, the heart, or the kidneys. (13) Result of this arterial tension increase leads to retinal hemorrhages, hard exudates, cotton wool spots and optic disc swelling. (14)

In our case, although macular exudates as star formation were not seen, chorioretinal folds and acquired hyperopia were present and vision was not affected. After the regression of the optic nerve swelling, exudates and cotton wool spots, chorioretinal folds were persistent. The importance of this case is, persistence of the chorioretinal folds is not dependent on a long period of uncontrolled hypertension.

References

1. Cassidy LM, Sanders MD. Choroidal folds and papilloedema. *Br J Ophthalmol*. 1999;83(10):1139-43.
2. Newman NJ. Choroidal folds. In: Miller NR, Newman NJ (eds). *Walsh and Hoyt's Clinical Neuro-Ophthalmology*, 5th edn. Baltimore: Williams & Wilkins, 1998; 1803-4.
3. Hyvarinen L, Walsh FB. Benign chorioretinal folds. *Am J Ophthalmol* 1970;70:14-17.
4. Schepens CL, Schwartz A. Intraocular tumours. *Arch Ophthalmol* 1958;60:72-83.
5. Gass JDM. Hypotony maculopathy. In: Bellows JC, ed. *Contemporary ophthalmology*. Baltimore: Williams and Wilkins, 1972:343.
6. Cangemi FE, Trempe CL, Walsh JB. Choroidal folds. *Am J Ophthalmol* 1978;86:380-7.
7. Bird AC, Sanders MD. Choroidal folds in association with papilloedema. *Br J Ophthalmol* 1973;57:89-97.
8. Kupersmith MJ, Sibony PA, Dave S. Nonarteritic Anterior Ischemic Optic Neuropathy Induced Retinal

Folds and Deformations. *Invest Ophthalmol Vis Sci.* 2017;58(10):4286-4291.

9. Jacobsen AG, Toft PB, Prause JU, Vorum H, Hargitai J. Long term follow-up of persistent choroidal folds and hyperopic shift after complete removal of a retrobulbar mass. *BMC Res Notes.* 2015;8:678.

10. Heisel CJ, Zacks DN, Kahana A. Persistent macular puckering following excision of causative orbital tumor. *Am J Ophthalmol Case Rep.* 2018;10:196-197

11. Sarraf D, Schwartz SD. Bilateral choroidal folds and optic neuropathy: a variant of the crowded disk syndrome? *Ophthalmology.* 2003;110(5):1047-52.

12. Wu J, Lai TF, Leibovitch I, Selva D. Persistent posterior globe flattening after orbital cavernous haemangioma excision. *Clin Experiment Ophthalmol.* 2005;33:424-5.

13. Lawrence R K. Management of the hypertensive patient. Churchill Livingstone Inc. 1995;195-204.

14. Chen YH, Kuo HK, Kao ML. Malignant hypertensive retinopathy-clinical and fundus manifestations in patients with new onset or acute exacerbation of chronic hypertension. *Chang Gung Med J.* 2003;26(9):669-77.