

Spectral Domain Optical Coherence Tomography of a Patient with Acute Retinal Pigment Epithelitis

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Abstract

Introduction: Acute retinal pigment epithelitis or Krill's disease first time was described in 1972 as unknown disease and self-limiting inflammatory disorder that influence retinal pigment epithelium in the area of macula. Affecting most of all young adults. Disease equally affects males and females. Symptoms are characterized by sudden changes in vision. The etiology of ARPE is unknown, but there are suggestions that viral infection may play role in the pathogenesis. The diagnosis of ARPE is made based on clinical suspicion, as well as fundus findings.

The purpose of this case is to report the clinical changes, laboratory changes and objective spectral domain optical tomography images of an ARPE at the acute phase and resolving phase.

Clinical Observation: 28 years old female with subjective complains of blurring in her left eye was examined with OCT scan, vision test, refractometry, laboratory testing was taken in his acute phase of ARPE and then the patient was treated 20 days and after the examination was repeated.

There were changes in subjective symptoms and objective there was positive changes in vision test, OCT scan also showed significant positive changes in foveal map, epithelium dislocation.

Conclusion: ARPE has a different objective findings during different phases of illness in OCT scan, vision testing, and also in subjective patient complains. ARPE is self-limiting disease, but treatment with oral steroids also might influence development of a disease.

Keywords: Acute retinal pigment epithelitis, Retinal pigment epithelium, Optical coherence tomography, Changes in visual acuity

Introduction

Acute retinal pigment epithelitis (ARPE), is a disease with authors name-Krill's disease, it was first time described in 1972 by Krill and Deutman [1]. This disease is characterized by acute vision loss in one or both eyes. It typically regress spontaneously even without any treatment, usually in 6-12 weeks. Symptoms also might be central or paracentral scotomas, and metamorphopsia [1-4].

Case Report

A 28-year-old female approached ophthalmologist with complains of a blurring in her left eye. Complains of blurring was lasting for 5 days now. 7 days ago patient got recovered from a recent flu-like syndrome, flu symptoms disappeared after 1 week, and she had no complains of flu-like symptoms at that time. Best-corrected visual acuity was 1.0 in her right eye and 0.45 in her left eye. Intraocular pressure (IOP) was 13 mmHg in right eye, 14 in the left eye. Patient previous experienced a vitritis with a permanent epiretinal membrane

that does not clinically manifest now and best corrected visual acuity was ou 1.0. Blood analysis was taken. And the results were following: Low Vitamin D-10,9 ng/mL (reference range 30-100 ng/mL). Herpes simplex IgG-26,7 increased (reference range <0.9), IgM-5,1 increased (reference range <0.9). Spectral domain optical coherence tomography (OCT-scan) was made and it showed changes in central part of macula in foveal area, in level of retinal pigment epithelium (RPE) (Figure 1).

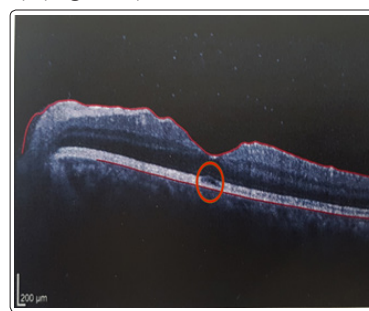


Figure 1: OCT-scan of retina, changes in RPE during blurring

Just 3 month before this episode, she underwent to regular visit to ophthalmologist. In that time she had no subjective complains, best-corrected visual acuity was 1.0 in both eyes. IOP was od14/os13.

Patient was treated with oral corticosteroid- prednisolone, antiviral therapy. 20 days after episode of blurring, she went to ophthalmologist again, at that time there were no subjective complains of blurring in her left eye, or any other complains. Best-correction visual acuity now was 1.0 OCT-scan also showed improvement, RPE layer was less changed (Figure 2). Also average thickness map changed in central part of macula from 277 μ m to 267 μ m (Figure 3).

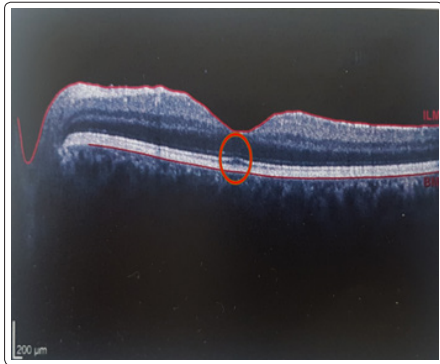


Figure 2: OCT-scan of retina, changes in retinal pigment epithelium 20 days after treatment

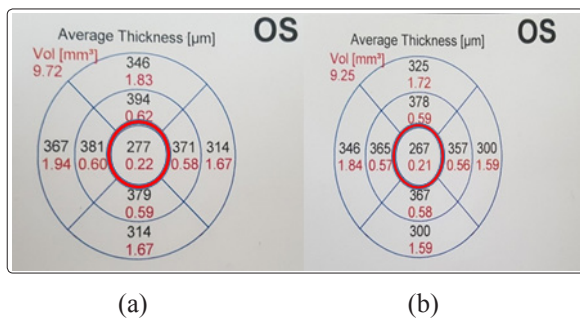


Figure 3: Average thickness during episode of blurring, (b) Average thickness 20 days after the episode

There was significant difference in visual acuity in small period of time. Vos=1.0 before the episode, Vos=0.45 during acute phase, and Vos=1.0 20 days after treatment. OCT-scan during acute phase and after treatment also showed improvement, RPE abnormality in 20 days after treatment was less comparing acute phase OCT-scan

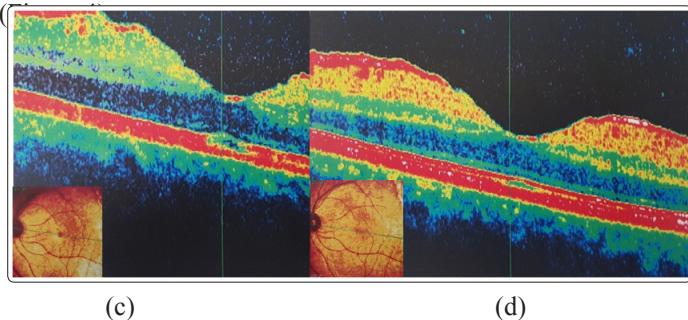


Figure 4: OCT-scan RPE during acute phase (c) OCT-scan RPE improvement

Discussion

Acute retinal pigment epithelitis is disease that is self-limiting, aetiology is idiopathic. It typically affects young adults between ages of 20-40 [1-5]. Hsu, et al. was first who described the OCT specific findings that were following: abnormal increased reflectivity involving the ONL and the RPE with absence of intraretinal, subretinal, or sub-RPE fluid [5]. Also specific changes in OCT was described by Han Joo Cho, year 2014 [6]. Abnormal reflectivity in the RPE inner layer, the line corresponding to the RPE inner layer, the inner segment ellipsoid (ISE) abnormal reflectivity, external limiting membrane (ELM) disruption, abnormal reflectivity in the outer nuclear layer (ONL). Our patient OCT findings showed abnormal RPE layer, the changes were on integration zone between layer of photoreceptors and RPE. Although it is believed that ARPE can be treated without and medication, our patient had a successful result with treatment of corticosteroid, and antiviral therapy. In 1972 Krill claimed that there might be connection between viral infection and ARPE, our patient confirms it, she also suffered from Herpes simplex during episode of ARPE [1].

Conclusion

Acute retinal pigment epithelitis may affect patient with symptoms of blurring and there is correlation between subjective complains, visual acuity, and changes OCT-scan in retinal pigment epithelium level. Oral steroids and antiviral therapy may effect development of a disease resolving.

References

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