Open Journal of
Clinical & Medical
Case Reports

Volume 3 (2017)
Issue 22

ISSN 2379-1039

A case of neovascular age-related macular degeneration who showed polypoidal choroidal vasculopathy lately associated with anti-vegf poor response

Hatice Nur Tarakcioglu, MD; Abdullah Ozkaya, MD*; Erdem Eris, MD; Ahmet Demirok, MD

***Abdullah Ozkaya, MD**

Beyoglu Eye Research and Education Hospital, Bereketzade Cami Sok. No:2 Beyoglu, İstanbul, Turkey
Phone: +90 212 252 6109, Fax: +90 212 521 5900; Email: abdozkaya@gmail.com

Abstract

Late poor response is a multifactorial phenomenon during the treatment of neovascular age-related macular degeneration (nAMD) with anti-vascular endothelial growth factors (anti-VEGF). This case report summarizes the treatment outcomes of an82-year-old Caucasian female who showed transformation to polypoidal choroidal vasculopathy (PCV) from choroidal neovascularization (CNV) secondary to nAMD 3 years after the beginning of anti-VEGF treatment. The patient then treated successfully with photodynamic therapy (PDT) combination in the right eye and interestingly left eye required PDT and drug switching (from ranibizumab to aflibercept).

Keywords

aflibercept; age-related macular degeneration; choroidal neovascularization; polypoidal choroidal vasculopathy; ranibizumab

Abbreviations

nAMD: neovascular age-related macular degeneration; PCV: polypoidal choroidal vasculopathy; anti-VEGF: anti-vascular endothelial growth factor; PDT: photodynamic therapy; RPE: retinal pigment epithelium; BCVA: best corrected visual acuity; CNV: choroidal neovascularization; IVB: intravitreal bevacizumab; IVR: intravitreal ranibizumab

Introduction

Polypoidal choroidal vasculopathy (PCV) is a choroidal disease which is characterized by multiple serosanguinous detachments of the retinal pigment epithelium (RPE) and neurosensory retina [1]. The polyp-like aneurysmal dilatations of the choroidal vessels which are associated with or without a branching vascular network usually causes leakage and bleeding into the subretinal space usually cause visual loss [1]. Polypoidal choroidal vasculopathy might be detected as a primary disease or in the course of neovascular-age related macular degeneration (nAMD) [2]. Herein this case report, we aimed to present a patients who showed polypoidal changes after three years of anti-vascular endothelial growth factor (anti-VEGF) treatment for nAMD in both eyes, showed late poor response to anti-VEGF and treated with the combination of photodynamic therapy (PDT).

Case Report

An 82-year-old woman admitted with the complaint of decreased visual acuity since 4 years in both eyes in March 2011. She had arterial hypertension since 14 years in the history. Her family history was not notable. On ocular examination, best corrected visual acuity (BCVA) was counting fingers from 2 meters in the right eye and 0.05 in decimals in the left eye. Both eyes were pseudophakic. Intraocular pressure was within normal limits in both eyes. Fundus examination revealed a choroidal neovascularization (CNV) scar of 1.5 disc diameter surrounded by a retinal pigment epithelium alteration and atrophy in the right eye, and a choroidal neovascularization scar of 4 disc diameter surrounded with subretinal fluid in the left eye. Optical coherence tomography revealed a subfoveal hyperreflective CNV scar associated with intraretinal cysts in the right eye and a subfoveal CNV scar associated with asubretinal fluid in the left eye. Fluorescein angiography revealed a classic choroidal neovascularization scar with well-defined borders of hyperfluorescence surrounded with a window defect secondary to RPE atrophy. Left eye showed a large minimally classic CNV. The patient was diagnosed as neovascular age related macular degeneration and anti-VEGF treatment with intravitreal bevacizumab (IVB) was suggested to the patient. The patient received 11 anti-VEGF injections [4 IVB, 7 intravitreal ranibizumab (IVR)] for the right eye and 12 injections (2 IVB, 11 IVR) for the left eye between March 2011 and May 2014. However, the patient became poor responder to IVR treatment in May 2014. Both eyes had been received 3 consecutive IVR injections previous to May 2014, but showed morphologically poor response. Therefore a new FA and an ICGA was obtained. ICGA showed polypoidal dilatations in the choroid around the CNVs in both eyes (Figure 1, Figure 2), which were diagnosed as polypoidal choroidal vasculopathy and probably the reason for morphologically poor response was these changes in the CNV. Meanwhile the visual acuity was found to be increased to 0.1 in decimals in the right eye and decreased to counting fingers from 1 meter in the left eye. Full dose photodynamic therapy was applied and additional 3 IVR injections were given to the right eye(Figure 3). Full dose PDT and additional 3 IVR and 3 intravitreal aflibercept (switch) injections were given to the left eye(Figure 4). In January 2015 both eyes showed full anatomical response to the given treatments. The retina was fluid free in both eyes and BCVA increased to 0.2 and 0.1 in the right and left eyes, respectively. Then the patient was then called for monthly visits.

Discussion

The response types to anti-VEGF treatment was defined in previous studies [3,4]. In a previous study from our clinic, we evaluated the nAMD patients who showed morphologically poor response after at least three consecutive ranibizumab injections at the beginning or at any time of the treatment [4]. In the study, indocyanine green angiography was obtained along with the other imaging techniques when morphologically poor response was detected. A hundred and thirty-two eyes were evaluated in the study, and 17 eyes (12.8%) were diagnosed as early poor responders which showed poor response after the initial 3 injections, and 115 eyes (87.2%) showed late poor response after 3 consecutive injections at any time of the treatment. After ICGA imaging only 9.8% of the patients were diagnosed as nAMD. While the remaining 90.2% was diagnosed to have other macular diseases. Most majority of the patients showed PCV (56.1%), and central serous chorioretinopathy (26.5%) [4].

The anti-VEGF poor response is an evolving subject in the literature [3]. Several studies evaluated

this topic and the terminology for anti-VEGF treatment response has been defined. The treatment response was classified into different categories as functional or anatomical response; as good, intermediate, or poor response; as early and late poor response in regards to the new classifications [3]. The poor response may be seen secondary to several factors like drug tolerance, suboptimal treatment, lesion changes or transformation, or misdiagnosis. In this case report we documented a patients who showed late anatomical and functional poor response in both eyes [3]. After 3 years of treatment the patients probably showed lesion transformation and became an anti-VEGF poor responder. There are various options for the treatment of the poor responders some of which are performing more frequent injections, combination with photodynamic therapy, or changing the drug (4). Interestingly, we have used two of these techniques for this patients two eyes. Right eye responded well to PDT combination; however left eye required both PDT combination and drug switch for full anatomical response. In the right eye, visual acuity increased from 0.1 to 0.2 and after PDT combination and the patients showed good anatomical response. Also in the left eye, visual acuity increased from counting fingers from 1 meters to 0.1 after PDT combination and switching the drug from ranibizumab to aflibercept.

Anti-VEGF poor response is a common phenomenon in nAMD patients. It may be treated with various techniques. In the report we documented a poor responder patients whose one eye was treated with only PDT combination, and the other eye was treated with both PDT combination and drug switching successfully.

Figures

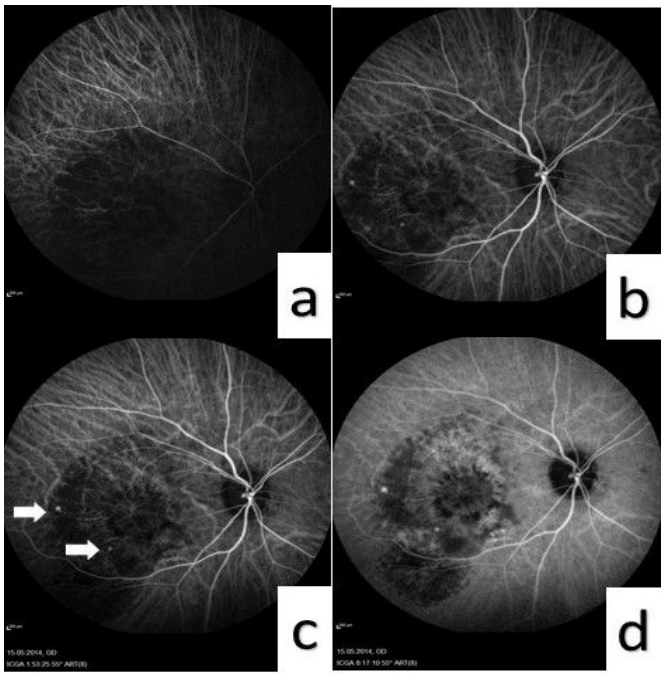

Figure 1: a, b, c, d) Indocyanine green angiograms of the right eye in May 2014 shows polypoidal lesions around the choroidal neovascularization (c, white arrows).

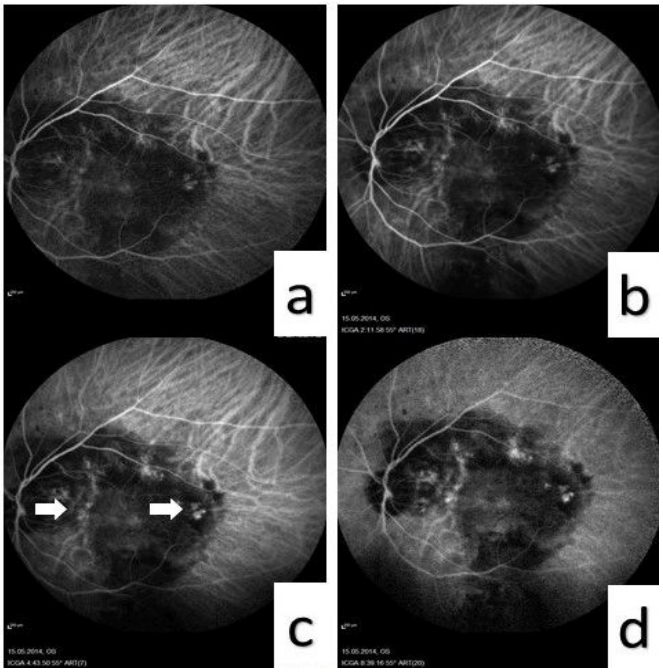

Figure 2: a, b, c, d) Indocyanine green angiograms of the left eye in May 2014 shows polypoidal lesions around the choroidal neovascularization (c, white arrows).

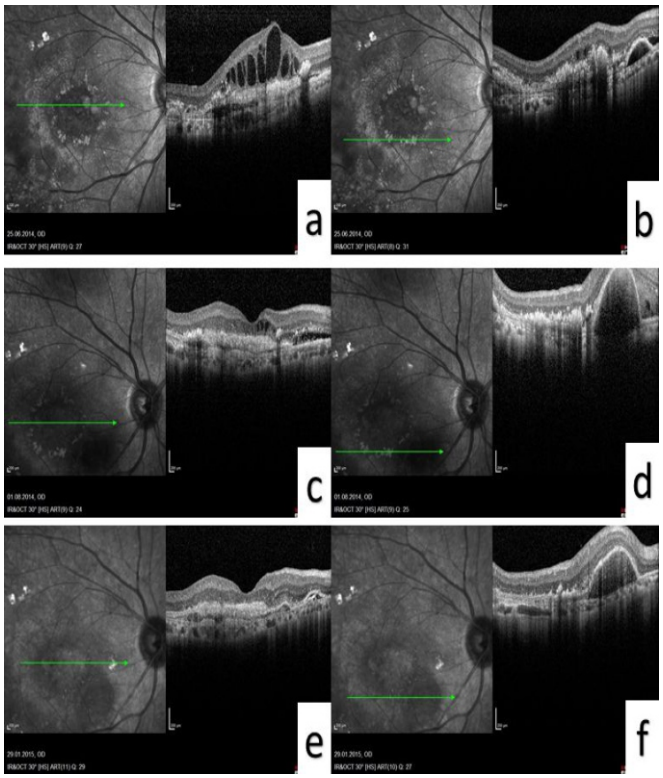

Figure 3: a, b, c, d, e, f) Serial optical coherence tomography scans from June 2014 to January 2015. e, f) The retina is fluid free in January after 3 ranibizumab injections combined with photodynamic therapy.

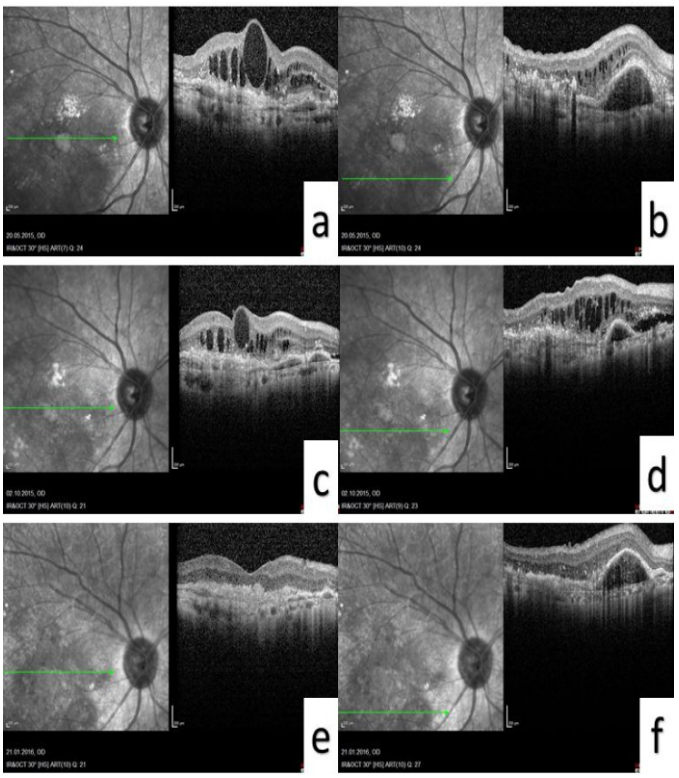

Figure 4: a, b, c, d, e, f) Serial optical coherence tomography scans from June 2014 to January 2015. c, d) Persistent intraretinal and subretinal fluid is detected after photodynamic therapy and 3 consecutive ranibizumab injections. Therefore the drug is switched to intravitreal aflibercept.e, f) The retina is fluid free in January after switching the drug to aflibercept and performing 3 consecutive injections.

References

1. Alkin Z, Ozkaya A, Ahmet S, Baz O, Togac M, Perente I, et al.. Photodynamic therapy and bevacizumab combination for polypoidal choroidal vasculopathy refractory to intravitreal ranibizumab. Beyoglu Eye J 2016;1:10-14.

2. Stangos AN, Gandhi JS, Nair-Sahni J, Heimann H, Pournaras CJ, Harding SP. Polypoidal choroidal vasculopathy masquerading as neovascular age-related macular degeneration refractory to ranibizumab. Am J Ophthalmol 2010;150:666-673.

3. Amoaku WM, Chakravarthy U, Gale R, Gavin M, Ghanchi F, Gibson J, et al.Defining response to anti-VEGF therapies in neovascular AMD. Eye (Lond) 2015;29:721-731.

4. Ozkaya A, Alagoz C, Garip R, Alkin Z, Perente I, Yazici AT, et al. The role of indocyanine green angiography imaging in further differential diagnosis of patients with nAMD. Eye (Lond) 2016;30:958-965.

Manuscript Information: Received: July 07, 2017; Accepted: October 27, 2017; Published: October 31, 2017

Authors Information: Hatice Nur Tarakcioglu, MD; Abdullah Ozkaya, MD*; Erdem Eris, MD; Ahmet Demirok, MD

Beyoglu Eye Research and Training Hospital, Beyoglu, İstanbul, Turkey

Citation: Tarakcioglu HN, Ozkaya A, Eris E, Demirok A. A case of neovascular age-related macular degeneration who showed polypoidal choroidal vasculopathy lately associated with anti-vegf poor response. Open J Clin Med Case Rep. 2017; 1335.

Journal: Open Journal of Clinical and Medical Case Reports is an international, open access, peer reviewed Journal focusing exclusively on case reports covering all areas of clinical & medical sciences.

Visit the journal website at **www.jclinmedcasereports.com**
For reprints and other information, contact editorial office at **info@jclinmedcasereports.com**