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Case Report

Macular Hemorrhage in a Thirteen-Year-Old Girl – A Case Report

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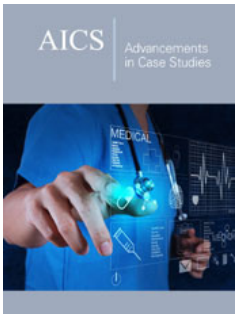

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Abstract

We present a 13-year-old Caucasian female with idiopathic unilateral macular hemorrhage (MH). She complained of a sudden loss of vision in the right eye (OD) during physical exercise. The condition was accompanied by dizziness and vertigo. A few days prior to that she had infection of the upper respiratory tract. Shortly after the visual loss the patient had abdominal pain and vomiting. The vision in the affected OD was 0.3 (20/60). Optical coherence tomography (OCT) proved the diagnosis of MH. After 2 months of observation the vision of the affected eye recovered to 1.0 (20/20). This case is unusual as the MH developed in a young female patient with no significant past medical history and with the absence of retinal, choroidal, systemic or autoimmune diseases that could lead to MH.

Keywords: Macular hemorrhage; Thirteen-year-old female; Spontaneous resolution

Introduction

There have been various causes for intraretinal haemorrhages in the pediatric population described in the literature. Among them we may mention Valsalva retinopathy, Purtscher's retinopathy, Terson syndrome, anemia, idiopathic macular telangiectasia, uveitis [1-6]. Furthermore, the ischemic retinopathies, like diabetic and sickle-cell retinopathy, are not an infrequent cause [7,8]. CNV associated with angioid streaks is also a possibility [9]. The purpose of our study is to present a case of idiopathic macular haemorrhage in a child without any ocular and systemic associations.

Case Report

A 13-year-old Caucasian female presented to the Clinic of Ophthalmology of University Hospital Alexandrovska with the complaint of a central scotoma in her right eye (RE) which developed during routine exercise 2 days previously. A few days prior to the visual loss she had an upper respiratory tract infection. A few hours after the loss of vision, the patient reported that she had vomited repeatedly. There had also been abdominal pain. Her vision was 0.3 (20/60) in RE and 1.0 (20/20) in the left eye. The blood pressure was normal and there was no history of COVID-19 infection or any systemic diseases such as hypertension, diabetes, allergies or any family history of eye diseases. She was not taking any systemic medications.

The pupils were equal, round and reactive to light with no afferent defect in both eye (OU) The extraocular muscle movements were normal and unrestricted in all positions of gaze OU. The gross inspection of the face and lids was negative for ecchymosis, edema or asymmetry. Anterior segment evaluation on bio-microscopy revealed that the eyelids and lashes were clear without evidence of inflammation. The corneas were clear and without evidence of scarring,

edema, neovascularization, infiltrates or dendrites. The bulbar and palpebral conjunctivae were clear without injection, chemosis, melanosis, papillae or follicles. The anterior chambers were deep and quiet with absence of cells or flare, hyphema or hypopyon. The irises were flat and without transillumination defects or other signs of atrophy, tears, nodules or neovascularization. No posterior synechiae were present. Anterior chamber angles were estimated to be grade 4 OU. The intraocular pressure measured 17/18mm Hg OU.

A dilated posterior segment evaluation of each eye revealed clear crystalline lenses without opacification or congenital cataract. No red or white blood cells were found in the vitreous of either eye and there was no evidence of posterior vitreous detachment or syneresis. Ophthalmoscopy did not reveal any retinal holes, tears, detachments or vitreous traction. The optic nerve measured 0.3mm in the horizontal and vertical meridians, and was pink, well-perfused and round with distinct margins in both eyes. Notching, bean-podding, Drance hemorrhage or retinal nerve fiber layer loss was not seen in either eye. The macula of OS was unremarkable. However, the macular exam of OD revealed a small, isolated macular haemorrhage (Figure 1).

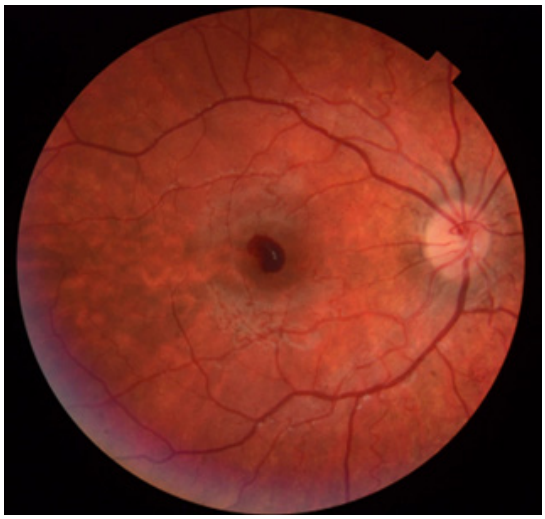

Figure 1: Color photograph of macular hemorrhage.

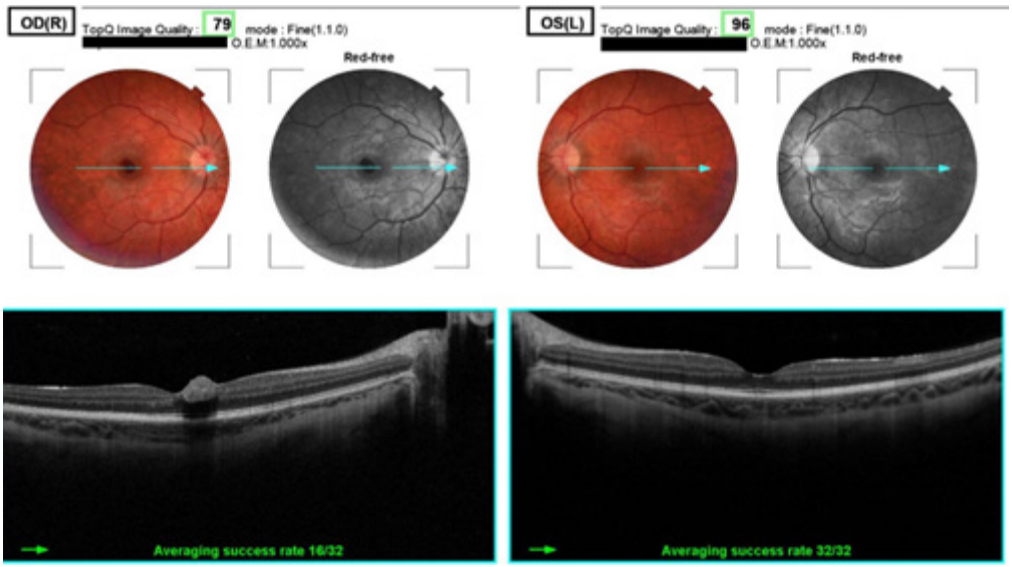

Figure 2: OCT of intraretinal hemorrhage.

An optical coherence tomography (OCT) scan revealed an intraretinal hemorrhage as well as a hypo-reflective area located below the hemorrhage (shadowing) (Figure 2). After about 2 months of observation the vision of the affected eye recovered to 1.0 (20/20) with no signs of hemorrhage.

Discussion

Different primary causes of sub-hyaloid or macular hemorrhage have been described, the most common being Valsalva retinopathy and Terson syndrome. In addition, such hemorrhages may occur secondary to vascular diseases such as arteriosclerosis, hypertension, retinal artery or vein occlusion, diabetic retinopathy, retinal macro-aneurysm, chorioretinitis, blood disorders as well as shaken baby syndrome, age-related macular degeneration, and can also occur spontaneously or as a result of trauma [1-9]. In our case spontaneous reabsorption of the hemorrhage occurred in about 2 months. The most likely mechanism of retinal hemorrhage in our case appeared to be a result of sudden rise in intrathoracic or intraabdominal pressure, as in Valsalva manoeuvre, during exercise. The elevated venous pressure during a Valsalva maneuver causes decompensation at the perifoveal capillary bed with hemorrhage between the retinal surface and the posterior hyaloid face [10].

Conclusion

Idiopathic macular hemorrhage is generally a disorder that primarily affects patients younger than 40 years and can cause sudden unilateral loss of vision. It usually occurs in an otherwise healthy eye, and mostly in female patient. The exact pathogenesis

remains unclear and poorly understood. Conservative management with observation usually suffices. The authors have no financial or proprietary interest in the materials presented here

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