**Case Reports**

**Case 1:** An 8-year-old healthy female patient applied to our ophthalmology department for routine ophthalmic evaluation. Her personal and family medical histories were unremarkable. On ophthalmic examination, her best-corrected visual acuity was 20/20 in both eyes. Anterior segment examination was normal. Intraocular pressures were within normal limits. Fundus examination revealed no abnormal findings. The patient was evaluated only with color fundus photography and optical coherence tomography (OCT). Congenital retinal macrovessel was not observed.

**Case 2:** A 6-year-old female patient was brought to us due to reduced vision in the right eye. In our ophthalmic examination, we detected astigmatism in the right eye but best-corrected visual acuity was 20/20 in the right eye and 20/25 in the left eye. Fundus examination revealed a large macrovessel crossing the horizontal raphe adjacent to the fovea in the right eye (Figure 1). The patient was evaluated only with fundus photography because the patient’s family did not consent to fundus fluorescein angiography (FFA) and optical coherence tomography (OCT).

**Case 3:** One 8-year-old female patient was referred to our clinic for the first time due to reduced vision in both eyes. In our ophthalmic examination, we detected astigmatism in both eyes but best-corrected visual acuity was 20/20 in both eyes. Fundus examination revealed a large macrovessel crossing the horizontal raphe in both eyes. The patient was evaluated only with color fundus photography and optical coherence tomography (OCT). Congenital retinal macrovessel was not observed.

**Keywords:** Congenital retinal macrovessel, aberrant retinal vessels, cilioretinal artery
visual acuity (BCVA) was 20/20 in both eyes using a Snellen chart. Anterior segment and funduscopic examination of the right eye were unremarkable. Examination of the macula of the left eye revealed a large superior macrovessel crossing the horizontal raphe with several tributaries adjacent to the fovea. Furthermore, the abnormal vein was accompanied by a cilioretinal artery (Figure 2a). The patient was evaluated with fundus photograph, FFA, fundus autofluorescence (Figure 2b), and spectral domain (SD)-OCT. FFA showed early filling of the venous macrovessel, accompanied by a cilioretinal artery, crossing the macula and having three tributaries which are surrounding the foveal area (Figure 2c). SD-OCT (Heidelberg Engineering, Heidelberg, Germany) showed normal foveal contour and vessel shadowing at five points (Figure 2d).

**Case 3:** A 16-year-old male patient was referred to us with a history of blurred vision in the left eye. His BCVA was 20/20 in the right eye and 20/25 in the left eye on Snellen chart. Relative afferent pupillary defects and anisocoria were not present. Intraocular pressures were within normal limits. Slit-lamp examinations of the anterior segments of both eyes were normal. On fundus examination of the left eye, an anomalous large vessel was seen passing through the fovea separated in the optic disc from the inferotemporal vein. The patient was evaluated with colored fundus photograph (Figure 3a), SD-OCT (Figure 3b), FFA (Figure 3c) and fundus autoflourescence (Figure 3d).

**Discussion**

Congenital retinal macrovessel is a rare finding and is usually discovered incidentally. CRM are mesenchymal in origin and develop around the first weeks of the second trimester when...
differentiation of arteries and veins occurs. They are generally asymptomatic, and vision is not affected in most cases. Archer et al. classified congenital retinal arteriovenous communications into three groups. Group 1 arteriovenous communications are the mildest variant, and clinically, can be very subtle. Group 2 are larger than those of group 1. Our case 2 was compatible with group 1 and our cases 1 and 3 were compatible with group 2 of the Archer classification. To our knowledge, a congenital retinal venous macrovessel that communicates with a cilioretinal artery is very rare. This condition was first described by Beatty et al. Most of the cases of CRM that have been documented to date exhibited normal visual acuity. When macrovessel is associated with reduced vision, one of the rare conditions should be considered: foveal cyst, macular hemorrhage or serous detachment, macular ischemia, branch retinal artery occlusion, and Valsalva retinopathy. For this reason, clinicians should be vigilant and follow these patients regularly.

**Ethics**

**Informed Consent:** It was taken.

**Peer-review:** Externally and internally peer-reviewed.

**Authorship Contributions**

Surgical and Medical Practices: Mehmet Yasin Teke, Concept: Bayram Gülpamuk, Design: Bayram Gülpamuk,
Data Collection or Processing: Bayram Gülpmuk, Pınar Kaya, Analysis or Interpretation: Bayram Gülpmuk, Pınar Kaya, Literature Search: Bayram Gülpmuk, Pınar Kaya, Writing: Bayram Gülpmuk, Pınar Kaya.

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