

Macular Hemorrhage as a Complication of Iron Deficiency Anemia

Demir Eksikliği Anemisinin Bir Komplikasyonu Olarak Gelişen Maküler Hemoraji*

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Case Report

Olgu Sunumu

ABSTRACT

A 30-year-old male presented with sudden decreased vision to 20/60 in his left eye (OS) for 5 days. Ophthalmoscopic and optical coherence tomography (OCT) findings were consistent with the diagnosis of macular hemorrhage. Further haematologic investigation into possible causes disclosed mild iron deficiency anemia. After 3 months, the visual acuity of patient had improved progressively to 20/30 by oral substitution therapy with ferrous sulfate. According to us, this case highlights the need for clinicians to be aware of the potential of iron deficiency anemia to cause sudden vision loss due to macular hemorrhage.

Key Words: Iron deficiency anemia, macular hemorrhage, vision loss.

ÖZ

Otuz yaşında erkek hasta, sol gözde aniden gelişen, 5 gündür süren görme kaybı ile başvurdu. Sol göz görme oranı 20/60 idi. Oftalmoskopi ve optik koherens tomografi bulguları maküler hemoraji ile uyumluydu. Hematolojik incelemeler sonucunda hastada hafif düzeyde demir eksikliği anemisi tesbit edildi. Üç aylık oral ferröz sülfat tedavisinin ardından, hastanın görme keskinliği 20/30'a çıktı. Bize göre bu vaka, klinisyenlere demir eksikliğine bağlı maküler hemorajinin ani görme kaybına yol açabileceğini göstermektedir.

Anahtar Kelimeler: Demir eksikliği anemisi, maküler hemoraji, görme kaybı.

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INTRODUCTION

The occurrence of retinopathy in patients suffering from severe anemia is well known. The most frequent symptoms are retinal hemorrhages and soft exudates, ischemic retinopathy, venous tortuosity and papil edema have also been described. The exact mechanism leading to fundus lesions is still not completely understood, but it seems to be related to retinal hypoxia.¹

Here, we report on a young man with spontaneous macular, intraretinal hemorrhage associated with iron deficiency anemia.

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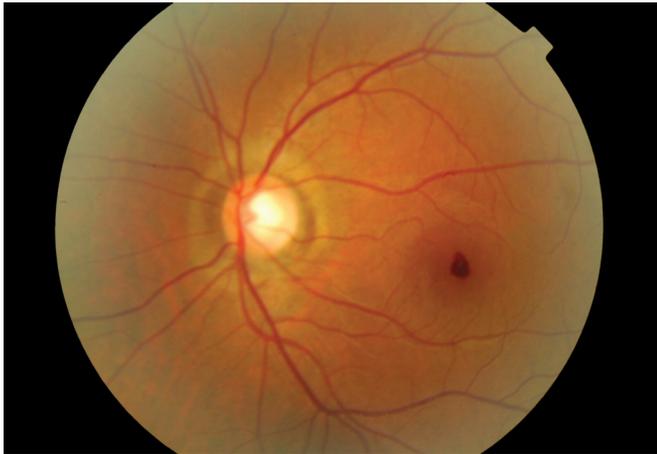


Figure 1: Macular hemorrhage in the left eye.

CASE REPORT

A 30-year-old male presented with sudden, painless decreased vision in his left eye (OS) for 5 days. There was no headache or claudication. On ophthalmic examination, visual acuity was 20/60 OS and 20/20 OD. Anterior segment examination and intraocular pressure were unremarkable in both eyes. Dilated fundus examination of his left eye revealed a fresh, small retinal hemorrhage in the macula (Figure 1), whereas his unaffected eye was unremarkable.

There was no vitreous inflammation or hemorrhage, venous dilatation or tortuosity, retinal neovascularization. The diagnosis of spontaneous macular hemorrhage was made and the patient was started on a comprehensive medical and ophthalmological check-up. Bilateral ocular ultrasonography was normal. OCT was revealed intraretinal hemorrhage in the macula on his left eye (Figure 2). The patient's history was negative for arterial hypertension, diabetes mellitus, atherosclerosis, hyperlipidemia, ocular disease, cigarette or drug abuse.

In addition our patient's history was negative for valsalva maneuvers such as vomiting or strain. Moreover, he had never undergone a surgical procedure. Hematology and internal medicine departments performed necessary examination and tests for patient. A complete blood count showed iron deficiency anemia with haemoglobin of 9.4 g/dL, haematocrit of 30.3%, MCH of 20.9 pg, MCHC of 31.7 g/dL, MCV 66 fL, serum Fe of 15 µg/dL, Fe binding capacity (UIBC) of >500 µg/dL and ferritin of 11.5 ng/ml. C-reactive protein and erythrocyte sedimentation rate were normal. Also, the periferic smear result was support iron deficiency anemia. The following laboratory test results were also negative or normal: platelet count, prothrombin time (PT), fibrinogen, partial thromboplastin time (PTT), bleeding time, tissue plasminogen activator (t-PA), von Willebrant factor antigen and factor VIII activity and antigen.

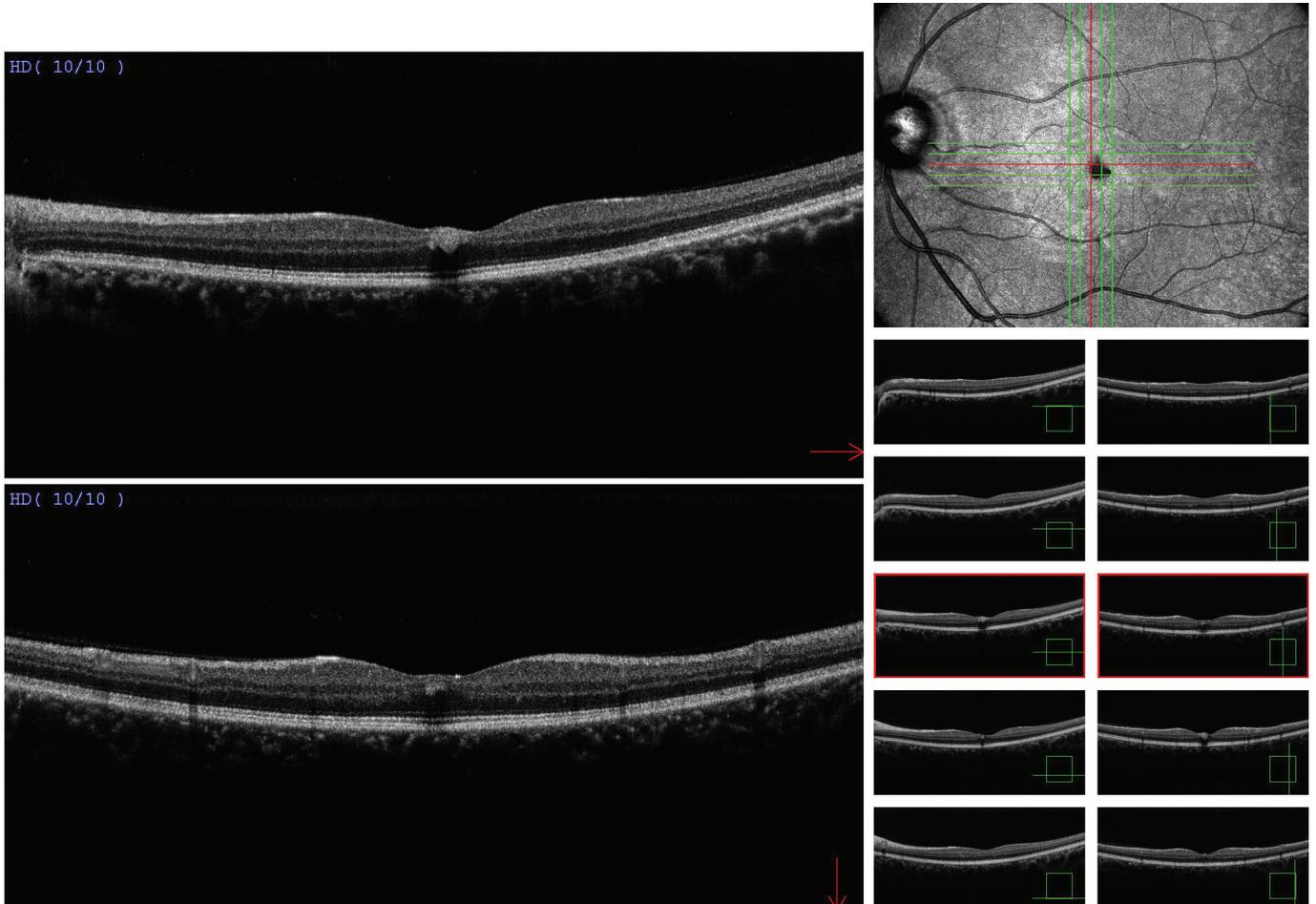


Figure 2: OCT appearance of macular hemorrhage in the left eye.

In patient's systemic examination and laboratory tests there were no any abnormal finding except iron deficiency anemia. The patient was started on iron 100x2 mg/day as oral tablets. Subsequently, visual acuity in the effected eye improved to 20/30 OS after 3 months.

DISCUSSION

The anemia has been reported as an important risk factor for developing retinopathy in many case series, with a prevalence of 20-28.3%.²⁻⁴ Carraro et al. have reported to fundus lesions in 9 (24%) of 37 patients with iron deficiency anemia.⁴ Therefore to the best of our knowledge, there is no report about macular hemorrhage associated with iron deficiency anemia.

The retinopathy was described due to several types of anemia such as iron deficiency anemia, aplastic anemia, sickle cell anemia, beta-thalassemia, pernicious anemia, drug-induced anemia.⁴⁻⁹ We diagnosed iron deficiency anemia in our case in light of the foregoing.

Although, mainly central or branch retinal vein occlusions have been reported due to iron deficiency anemia, we have not find a case related with macular hemorrhage.¹⁰⁻¹¹ Furthermore, vision loss following non-ophthalmic surgery is an increasingly recognized complication. Two risk factors commonly associated with visual loss in this setting are intraoperative blood loss and hypotension.¹² But, there is no history of ophthalmic or non-ophthalmic surgery in our case.

The incidence of blood component abnormalities is high in young patients who rarely have systemic hypertension or arterial sclerosis. Retinochoroidal circulation may be disturbed in patients with abnormalities of blood components as in our case.¹⁻³

In conclusion, this case highlights the need for clinicians to be aware of the potential of iron deficiency anemia to cause sudden vision loss due to macular hemorrhage.

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