

Two red boats in the eye: subhyaloid haemorrhages in anaemic retinopathy secondary to idiopathic aplastic anaemia

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DESCRIPTION

A 11-year-old child presented with gradual diminution of vision in the right eye since 3 weeks. On examination, his best-corrected visual acuity in the right eye was 20/30 N6 and that in the left eye was 20/20 N6. Anterior segment examination was essentially normal in both eyes. Intraocular pressure in the right and left eyes were 16 and 14 mm Hg, respectively. Fundus examination of the right eye showed dilated and tortuous vessels and two boat-shaped subhyaloid haemorrhages (yellow arrow), one at the inferior macula and the other was inferonasal to the optic disc (figure 1A), and left eye showed optic disc oedema (white arrow) with dilated and tortuous vessels (figure 1B). There was no history of trauma or Valsalva manoeuvre in the recent past, and there was no evidence of any systemic bleeding diathesis. Multiple subhyaloid haemorrhages in a child with the aforementioned fundus picture led us to investigate further for underlying blood dyscrasias. Routine laboratory workup revealed pancytopenia, and bone marrow aspiration showed hypocellularity without any malignant cells. So, a diagnosis of both eyes anaemic retinopathy secondary to idiopathic aplastic anaemia (AA) was made, and the patient was referred to a haematologist. The patient subsequently underwent multiple blood transfusions, along with simultaneous immunosuppression (cyclosporin and danazole).

Multiple subhyaloid haemorrhages or white centred haemorrhages in the retina can be a clue to an underlying blood dyscrasia, and these patients need a detailed haematological evaluation.

AA is considered as a bone marrow failure syndrome wherein there appears a deficiency of all blood cell types: red blood cells, white blood cells

and platelets. The disease onset itself has a bimodal age distribution.¹ It may be present at birth or may be acquired due to exposure to radiation, chemotherapy, toxic chemicals, and drug-induced or viral infections. Pancytopenia in AA is due to immune-mediated destruction of haematopoietic stem cells, thus leading to bone marrow hypocellularity.

Ocular manifestations of AA are diverse, which include subconjunctival haemorrhages, lid haematomas, rubeosis iridis, retinal haemorrhages, retinal vein occlusions, vitreous haemorrhage, subhyaloid haemorrhages, cotton-wool spots, optic disc oedema, anterior ischaemic optic neuropathy, scleral necrosis and proliferative occlusive vasculopathy.¹⁻³ Mansour *et al* found preretinal haemorrhages as the most common ocular manifestation (67%) in patients with AA and optic disc oedema in 6% of cases as seen in our patient.⁴

Patients with AA can present with systemic bleeding tendencies like gingival bleeding or nasal bleeding; however, in a few cases, it can present with ocular manifestations alone as an initial manifestation.⁵ Our patient had multiple subhyaloid haemorrhages, which prompted us to think of underlying blood dyscrasia. In our patient, an

Patient's perspective

Father's perspective – My child complained of decreased vision in right eye since 3 weeks and now we came to know that his vision loss is due to underlying blood disorder. I'm thankful to my ophthalmologist in timely diagnosis of this underlying disorder.

Learning points

- ▶ All young individuals presenting with retinal haemorrhages, subhyaloid haemorrhages or Roth spots should be evaluated completely for any underlying haematological dyscrasia.
- ▶ Anaemic retinopathy secondary to aplastic anaemia can present with a vein occlusion-like picture with optic disc oedema and multiple subhyaloid haemorrhages.
- ▶ In patients with multiple subhyaloid haemorrhages, rule out underlying acute severe anaemia or thrombocytopenia as a cause.

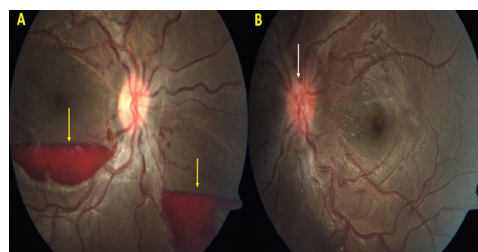


Figure 1 Fundus picture of the right eye (A) showing dilated and tortuous vessels, two boat-shaped subhyaloid haemorrhages (yellow arrow) at the inferior macula and inferonasal to optic disc. Left eye fundus (B) shows optic disc oedema (white arrow) with dilated and tortuous vessels.



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underlying thrombocytopenia and AA had led to multiple subhyaloid haemorrhages.

Patients with AA are prone to develop spontaneous severe bleeding, disseminated intravascular coagulation and severe sepsis. Therefore, a timely detection of these retinal changes by an ophthalmologist can be of immense value in such life-threatening diseases.

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