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CASE REPORT

Subhyaloid Haemorrhage In Severe Dimorphic Anaemia And Thrombocytopaenia – A Case Report

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ABSTRACT

We report here, a case of a 15 year old girl who presented with the complaint of reddish discolouration of vision in the left eye. This was ascertained to be due to a subhyaloid haemorrhage in the macular area. Haematological investigations and confirmatory bone marrow biopsy revealed severe dimorphic anaemia with thrombocytopaenia. Following blood transfusion under the physician's supervision, the subhyaloid haemorrhage showed signs of resolution and there was improvement in the vision. This case report highlights the role of routine fundoscopy in all cases of anaemia, especially as retinal findings may be present with or without visual impairment.

KEY WORDS: severe anaemia, thrombocytopaenia, subhyaloid haemorrhage, macula.

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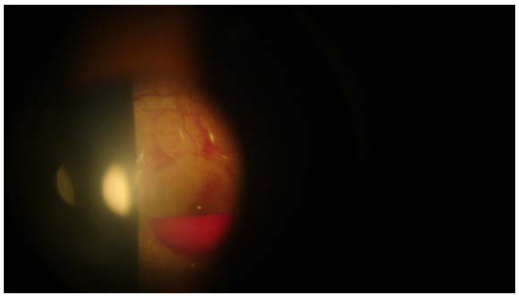
Introduction

The ocular manifestations of severe anaemia include conjunctival pallor and haemorrhages, retinal haemorrhages, tortuous retinal veins, cotton-wool exudates and disc oedema, flame-shaped retinal haemorrhages being the commonest type of haemorrhage, followed by sub-hyaloid haemorrhage. [1] Ocular manifestations occur when severe anaemia is associated with thrombocytopaenia. [2] We report here, a case of severe anaemia with thrombocytopaenia, who presented with a subhyaloid haemorrhage which showed signs of resolution over a period of one week with systemic management of the condition.

Case Report

A 15 year old girl was referred for ophthalmic examination for her complaint of reddish discolouration of vision in the left eye. She was admitted for polymennorhoea and menorrhagia along with spasmodic dysmenorrhoea which was of 3 months duration. There was no ocular or head trauma. She denied any history of the long term intake of drugs. There was no history of melena, nose bleeds or easy bruisibility.

On examination, her Best Corrected Visual Acuity (BCVA) in the right eye was 6/6 and in the left eye, it was 5/60. Her anterior segment findings were unremarkable, except for conjunctival pallor. Fundus examination showed the presence of flame shaped haemorrhages, along with Roth spots in both the eyes. Macula of the left eye showed sub-hyaloid haemorrhage [Table/Fig 1]. The intraocular pressure in both the eyes by Goldmann applanation tonometry was 12 mmHg. She was investigated for anaemia. Her haemoglobin level was 3.1 gm%, platelet count was 0.71 lakh /cumm, RBC count was 0.85 million /cumm and the WBC count was 1,100 cells/ cumm. Her bleeding time, clotting time and prothrombin time were normal. Ultrasonography of the abdomen revealed splenomegaly. The peripheral blood smear report suggested features of dimorphic anaemia, which was confirmed by bone marrow aspiration biopsy.



[Table/Fig 1]: Fundus photograph (taken on slit lamp) of left eye showing macular subhyaloid haemorrhage

The patient was administered 3 pints of whole blood, following which her haemoglobin level improved to 7.4 gm% and the platelet count to 1.0 lakh / cumm. Fundus examination after a week, showed signs of resolution of the subhyaloid haemorrhage. BCVA in the left eye at the time of discharge was 6/12. The patient was subsequently lost for follow up.

Discussion

Subhyaloid or preretinal macular haemorrhage is located between the nerve fiber layer and the inner limiting membrane. The causes for haemorrhage include diabetic retinopathy, hypertensive retinopathy, retinal vein occlusion, ruptured macroaneurysm, shaken baby syndrome and valsalva retinopathy. Other causes include autoimmune haemolytic anaemia, aplastic anaemia, leukaemia and severe head trauma.

The factors that have been implicated in the pathogenesis of anaemic retinopathy include anoxia, venous stasis, angiospasm, increased capillary permeability and thrombocytopaenia. [2] Severity of the anaemia, increased blood viscosity as seen in leukaemic and other myeloproliferative disorders and periods of hypotension (especially following severe haemorrhage), are other contributing factors for anaemic retinopathy.

Foulds et al found a higher prevalence of anaemic retinopathy in patients with haemoglobin levels of < 6 gm %. [3] In the study by Carraro MC, Rosetti L and Gerli GC, retinopathy was seen in 38% of the patients with concomitant anaemia and thrombocytopaenia. [4] Rubenstein et al found a 44% prevalence of retinopathy in 67 patients with anaemia and thrombocytopaenia. They found retinal haemorrhages only in patients with anaemia and thrombocytopaenia and no signs of retinopathy in patients with thrombocytopaenia alone. [2] Our patient had severe anaemia with thrombocytopaenia, which were responsible for the occurrence of retinopathy.

Literature search on anaemic retinopathy showed bilateral macular haemorrhage occurring in drug induced anaemia, idiopathic thrombocytopaenic purpura and autoimmune haemolytic anaemia. [5],[6],[7],[8] Anaemic retinopathy is almost always reversible with the treatment of anaemia. In our patient, the sub-hyaloid haemorrhage showed signs of resolution and there was improvement in the vision with the treatment of anaemia. Surgical intervention is required when spontaneous resorption is insufficient [9]. This case report highlights the need for fundus examination in all patients with anaemia and the fact that ophthalmic manifestations do not need any specific treatment other than systemic management.

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