ISSN: 0976-3031

Available Online at http://www.recentscientific.com

International Journal of Recent Scientific Research
Vol. 8, Issue, 1, pp. 15181-15182, January, 2017

International Journal of Recent Scientific Research

Case Report

BILATERAL LEUKAEMIC RETINOPATHY - A CASE REPORT

Gagandeep Kaur and Katkar Amol Rambhau

GGSMC, Faridkot

ARTICLE INFO

Article History:

Received 17th October, 2016
Received in revised form 21st November, 2016
Accepted 05th December, 2016
Published online 28th January, 2017

Key Words:

Acute myeloid leukaemia, Leukaemic retinopathy, haemorrhages, decrease in vision

ABSTRACT

Hematological disorders can occasionally present with ocular symptoms. In the setting of an established systemic illness, it is easy to explain the ocular findings. But when ocular involvement is the primary presentation of the systemic disease, the diagnosis can be difficult, especially when the presentation is atypical. We report a 65 years old male, who presented with sudden decrease in vision in both the eyes, right more than the left, of four days duration and history of fever with joint pain 2 weeks prior to the presentation.

INTRODUCTION

Leukemia, a cancerous disease of the white blood cells spreads throughout the bloodstream and may affect a number of organs. It begins in the bone marrow, where all blood cells are formed before being released into the bloodstream. Leukemia may present in different forms and are distinguishable as per the form of abnormal leukocytes and by how quickly these cells leave the bone marrow and enter the bloodstream. Leukemia is essentially a malignant neoplasm involving the bone marrow and blood 1. The four main types of leukemia are acute myeloid leukemia, chronic myeloid leukemia, acute lymphoblastic leukemia, and chronic lymphocytic leukemia.[1] Acute myeloid leukemia (AML) is the most common type of leukemia that affects adults. The acute leukemia is a fast advancing disease that generates immature cells. These immature cells are unsuitable for normal physiological functions within the affected person. Chronic leukemia habitually develops gradually, and is characterized by reasonably higher proportions of mature cells. These reasonably high proportions of mature cells help sustain some of their customary functions.

Clinically evident ocular involvement is common in patients with leukemia and has been described in up to 50% of patients at the time of diagnosis[2]. Leukemic retinopathy is characterized by multiple preretinal and intraretinal hemorrhages that are most notably present in the posterior pole. Other clinical signs comprise: Roth's spots, cotton wool spots, exudates, retinal venous tortuosity, perivascular sheathing, and neovascularization. Roth's spot hemorrhages may point to a small area of retinal leukemic infiltration or platelet–fibrin depositions. Retinal lesions of peripheral neovasularization or "sea fan" neovascularization (typical of sickle cell retinopathy) may occur in patients with chronic leukemia and are thought to occur as a result of peripheral nonperfusion and ischemia from the hyperviscosity.[2]

Case Report

A 65 years old male, who presented with sudden decrease in vision in both the eyes, right more than the left, of four days duration. He gave history of fever with joint pain 2 weeks prior to the presentation. On examination the Best Corrected Visual Acuity was CF at 1m in right eye and CF at 2m in the left eye. The pupils were normal and briskly reacting to light with no RAPD. AC and vitreous were quiet. Fundus examination showed disc margin distinct and multiple retinal hemorrhages and cotton wool spots in both the eyes. Some of the hemorrhages were white centered (Fig. 1 & 2). Fluoresce in angiography showed blocked fluorescence corresponding to the areas of hemorrhage in both the eyes and segmental leakage from the arterioles and capillaries (Fig.3 & 4). Haematological work up was also done. Hemoglobin was 9.8 gm % and total count was 3, 00 000 cells/ cumm. Peripheral smear showed microcytic hypochromic RBCs with many polychromatic cells and occasional nucleated RBCs. WBCs showed blast cells and

*Corresponding author: *Gagandeep Kaur*
GGSMC, Faridkot

markedly reduced platelet count of 60,000/cumm. Overall impression was acute myeloid leukemia. The patient was then referred to an Oncologist.

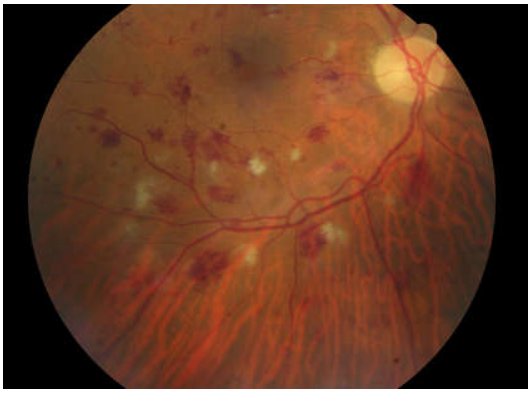

Fig.1 Fundus R/E

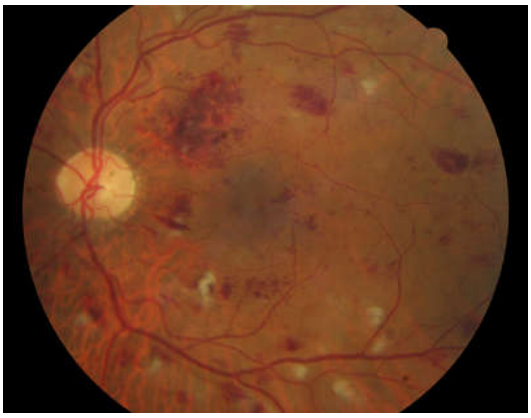

Fig 2 Fundus L/E

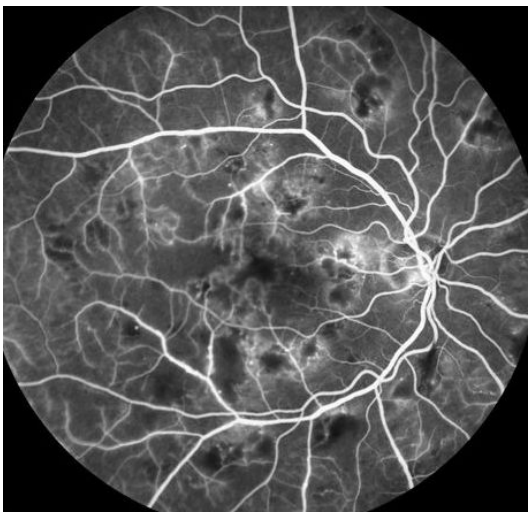

Fig.3 FFA R/E

DISCUSSION

Retina in the most frequently involved ocular structure in leukemia[3]. Leukemic retinopathy occurs in around 35.4 % of the patients with leukemia[4]. The most common retinal finding is retinal hemorrhages, as reported in over 24 % of newly diagnosed cases of leukemia [5].The hemorrhages can be flame shaped, dot-and-blot type or white centred.

The white centre of hemorrhages is thought to be due to accumulation of leukemic cells[6]. The hemorrhages are a result of thrombocytopenia and anemia. Occasionally the hemorrhage can extend into the vitreous or sub retinal space. Retinal veins can be tortuous and dilated due to increase in blood viscosity. On casual examination the hemorrhages and dilated tortuous veins may be confused with CRVO. Involvement of vitreous and optic nerve are rare happenings in ocular leukemia. Histopathologically, choroid is the most commonly involved structure in leukemia[7-8]. Choroidal involvement can lead to hyperplasia of overlying RPE and Pigment clumping which leads to "leopard spot appearance".

This case highlights the importance of routine eye exams and that clinicians should suspect leukemia in an otherwise healthy patient presenting with ischemic retinopathy.

References

1. Lanf G E., Spraul CW, Lang GK. [Ocular changes in primary hematologic diseases]. *Klin Monbl. Augenheilkd*.1998; 212:419–27.
2. Vardiman J, Hyjek E. World health organization classification, evaluation and genetics of the myeloproliferative neoplasm variants. Hematology Am Soc Hematol *Educ Program*. 2011; 2011:250–6.
3. Duke – Elder S. System of Ophthalmology, retina, Vol X. St. louis, C V Moshy Co, 1967, pp 383- 400
4. Reddy SC, Jackson N, Menon BS. Ocular involvement in leukemia – A study of 288 cases. *Ophthalmologica* 2003; 217: 441-5.
5. Schachat AP, Markowitz JA, Guyer DR, *et al*. Ophthalmic manifestation of leukemia. *Arch Ophthalmol* 1989; 107:697-700.
6. Duane TD, Osher RH, Green WR. White centered hemorrhages: their significance. *Ophthalmology*. 1980; 87(1):66-9.
7. Kincaid MC, Green WR. Ocular and orbital involvement in leukemia. *Surv ophthalmol*. 1983; 27(4): 211-32.
8. Allen RA, Straatsma BR. Ocular involvement in leukemia and allied disorders. *Arch Ophthalmol* 1961; 66: 490-508.

****

How to cite this article:

Gagandeep Kaur and Katkar Amol Rambhau.2017, Bilateral Leukaemic Retinopathy - A Case Report. *Int J Recent Sci Res.* 8(1), pp. 15181-15182.