International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Case Report

A Rare Case of Bilateral Serous Detachment in a Patient of Acute Lymphoblastic Leukaemia (ALL)

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Received: 20/04/2016 *Revised: 17/05/2016* *Accepted: 23/05/2016*

ABSTRACT

We present a case of an 11 y old boy who presented with sudden complains of 4-5 episodes of epistaxis along with 1-2 episodes of haematuria and hematemesis in last 7 days. On day 2 of admission, the patient began to develop blurring of vision in both eyes. He then underwent detailed haematological evaluation along with detailed ocular examination. Bone marrow biopsy confirmed acute lymphoblastic leukemia. Best Corrected Visual acuity at presentation was FC3M in right eye and 6/12 in left eye. Fundus examination revealed serous retinal detachment in both eyes in the posterior pole. The Fundus Fluorescein Angiography (FFA) showed bilateral serous detachment with right eye showing a greater leakage of dye. Optical Coherence Tomography (OCT) showed greater serous retinal detachment in the right eye. The patient was then started on systemic chemotherapy (according to protocol for ALL) and visual acuity improved to 6/12 in the right eye, with no improvement in left eye. Indirect ophthalmoscopy and FFA revealed resolution of serous retinal detachment in both eyes 1 month after starting of induction therapy. Bilateral serous detachment is a very unusual and uncommon presentation of leukaemia. This case, emphasizes the need for early and prompt diagnosis of ophthalmic manifestations of ALL followed by timely systemic chemotherapy which can be vision saving for the patient. Young patients presenting with bilateral SRD should be evaluated for other systemic manifestations in order to rule out leukaemia.

Keywords: Acute Lymphoblastic Leukemia (ALL), serous retinal detachment, Fundus fluorescein angiography, OCT (Ocular coherence tomography)

INTRODUCTION

Acute lymphoblastic leukemia (ALL) presents with various fundus manifestations. However, bilateral serous exudative retinal detachment is a very uncommon manifestation. Very few cases of ALL, with bilateral serous exudative retinal detachment, have been reported. [1-5] The purpose of this case report was to highlight the importance of bilateral serous detachment as an early presenting sign in patients of ALL. All young healthy patients with bilateral serous retinal detachment should undergo systemic examination and investigations to rule out ALL.

An 11 yr old boy presented to a local hospital with sudden complains of 4-5 episodes of epistaxis along with 1-2 episodes of haematuria and hematemesis since last 7 days. He was transfused with blood at this hospital and then transferred to our hospital in order to rule out any haematological abnormality.

On day 2 of admission at our hospital, the patient began to develop blurring of vision in both eyes. No other ocular complains were present. There was

no previous history of any steroid consumption. He then underwent detailed haematological evaluation. He had a WBC count of 1000, Haemoglobin: 5.4 gm %, Platelet: 30,000, RBC: 2.11 Mil/Cumm. The peripheral smear showed anisopoikilocytosis with tear drop cells and macrocytes. Ultrasonography showed hepatosplenomegaly. Bone Marrow Biopsy confirmed the diagnosis of a Pre B Cell ALL.

On ocular examination, the patient had a best corrected V/A of Counting fingers 3 metres in right eye and 6/12 in left eye. All extra ocular movements along with intraocular pressures were normal for both eyes. No significant abnormality was detected on slit lamp examination in the anterior segment. However, on fundus examination, serous retinal detachment was found in both eyes in the posterior pole.

The patient then underwent Fundus Fluorescein Angiography (FFA) and Ocular Coherence Tomography (OCT) for further detailed evaluation of serous detachment. The FFA showed bilateral serous detachment with right eye (RE) showing a greater leakage of dye and hence greater serous detachment (Fig 1). OCT showed greater serous retinal detachment in the right eye. B Scan showed no signs of choroidal infiltration.

The patient was then started on systemic chemotherapy (according to protocol for ALL) and visual acuity improved to 6/12 in the right eye, with no improvement in left eye. Indirect ophthalmoscopy and FFA revealed resolution of serous retinal detachment in both eyes 1 month after starting of induction therapy. Four months after the initiation of induction therapy the patient was in complete remission, with absence of any ocular symptoms.

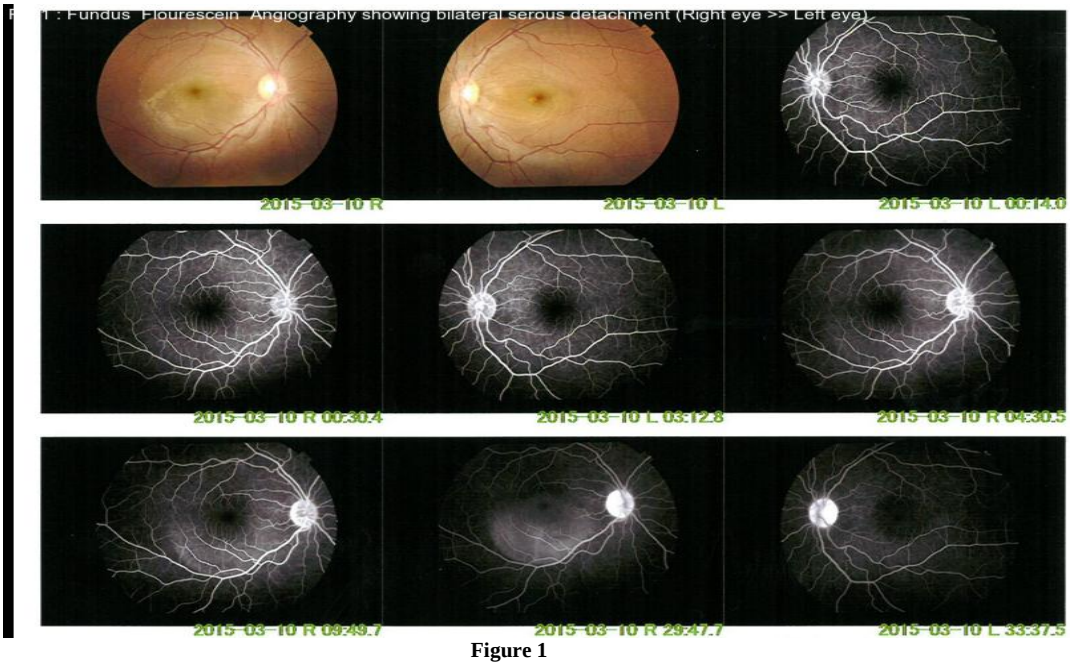

Figure 1

DISCUSSION

The spectrum of fund us manifestations in leukaemia is large. It ranges from retinal flame shaped haemorrhages with a white component, cotton wool spots to venous tortuosity, dilatation and irregularity. Most of these manifestations are due to the resulting anaemia, thrombocytopenia, hyperviscosity that occur secondary to the leukaemia. Some cases have also shown leukemic infiltration of retina in form of white clumps and masses. [1] However, bilateral serous detachment is a very unusual and

uncommon presentation of leukaemia. Stewart et al observed that leukemic infiltration of choriocapillaris resulted in ischemia and breakdown of central RPE intercellular junctions and hence leakage of dye in fluorescein angiography. [2] Very few cases of bilateral serous detachment in ALL patients during the early stages of diagnosis have been reported.

The serous retinal detatchment observed in such cases has been shallow at the posterior pole. FFA findings in other cases have shown early multifocal hyperfluorescent spots with delayed sub retinal fluid leakage. Similar findings were observed in our case. Choroidal infiltration on B scan was reported by Kazuaki et al, which was not present in our case. [3]

Intraocular manifestations of leukaemia are usually not treated directly. Systemic chemotherapy is initially employed. Ocular radiation is employed only if systemic chemotherapy fails in resolution of leukemic infiltrates. In our case, only systemic chemotherapy was administered and serous retinal detatchment resolved shortly with improvement in visual acuity. Similar observations were made by Jinseon Kim et al in their patient who had presented with a similar clinical scenario. [4]

This case emphasizes the need for early and prompt diagnosis of ophthalmic manifestations of ALL followed by timely systemic chemotherapy which can be vision saving for the patient. These patients should also be monitored in their remission phase as cases of relapse have presented with sudden bilateral serous detachment, in the remission phase. [5]

Hence, in conclusion, all patients of ALL should undergo detailed ophthalmic evaluation. Young patients presenting with bilateral serous retinal detatchment should be evaluated for other systemic manifestations in order to rule out leukaemia.

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How to cite this article: Harne S, Bhuta N. A rare case of bilateral serous detachment in a patient of acute lymphoblastic leukaemia (ALL). Int J Health Sci Res. 2016; 6(6):402-404.

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