



# T-Cell Acute Lymphoblastic Leukemia with Massive Vitreo-Retinal Infiltration and Neovascular Glaucoma

Harathy Selvan<sup>1</sup> · Hannah Shiny<sup>1</sup> · Shikha Gupta<sup>1</sup>

Received: 13 April 2019 / Accepted: 17 May 2019 / Published online: 22 May 2019  
© Indian Society of Hematology and Blood Transfusion 2019

**Keywords** Leukemic retinopathy · Disc infiltration · Retinal infiltration · Neovascular glaucoma

A 19-year-old male was referred from Oncology department to evaluate for his rapidly progressive unocular diminution in vision and ocular pain for past 1-week. His records revealed that he had T-cell acute lymphoblastic leukemia with central nervous system involvement and was on high-dose methotrexate chemotherapy and triple intrathecal therapy (methotrexate, hydrocortisone and cytarabine). Ocular examination showed right eye (RE) vision 20/20 and left eye (LE) no light perception, with intraocular pressures of 14 mmHg and 48 mmHg respectively. Slit-lamp examination of LE showed subtle

neovascularisation of iris (Fig. 1a, white arrows), closed angles and cellular infiltration of the anterior vitreous (Fig. 1b, white arrow). Fundus examination showed massive infiltration of retina and optic disc with indiscernible disc borders (Fig. 1c, white arrow). RE was normal. A diagnosis of LE vitreo-retinal leukemic infiltration with neovascular glaucoma was made and proceeded with anterior retinal cryopexy and cyclo-cryotherapy.

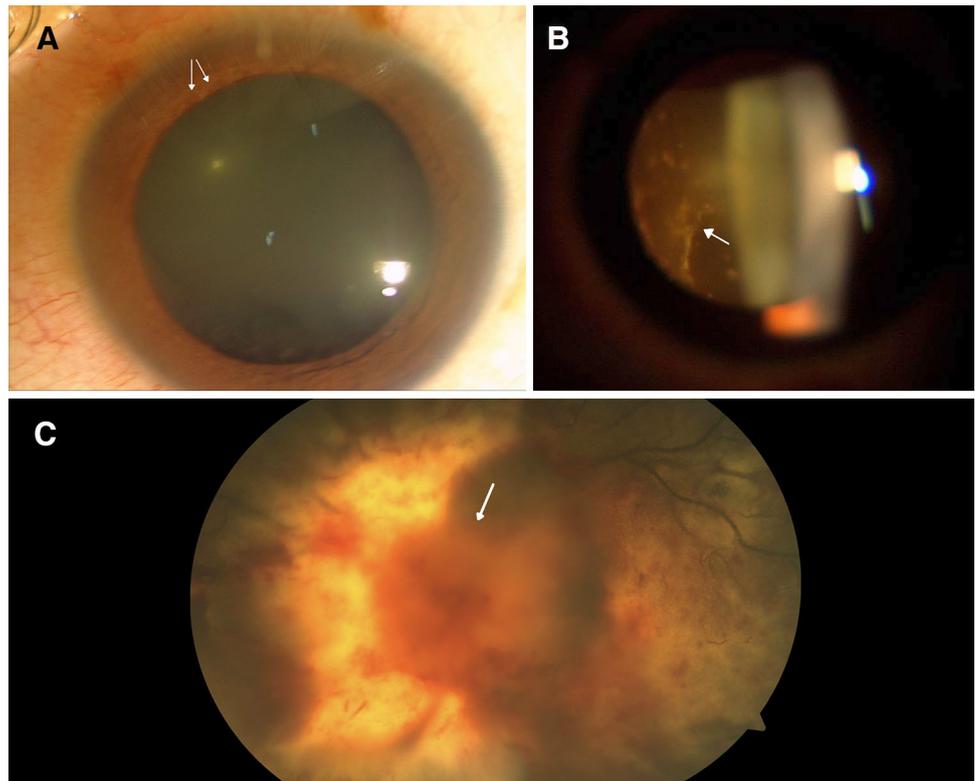
The eye offers the advantage of direct visualization of the neural and vascular tissues, aiding in early recognition of pathologies. This diagnostic modality should be used to the fullest, and patients with hematopoietic malignancies should be screened at baseline and regular intervals, to avoid irreversible blindness. While leukemic retinopathies

---

✉ Harathy Selvan  
sharathy2012@gmail.com

<sup>1</sup> Dr Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi 110029, India

**Fig. 1** **a** Slit-lamp examination of left eye shows subtle neovascularisation of iris (white arrows). **b** Slit-lamp examination shows cellular infiltration of the anterior vitreous (white arrow). **c** Fundus examination showed massive infiltration of retina and optic disc with indiscernible disc borders (white arrow)



are fairly common [1, 2], development of neovascular glaucoma is unusual.

**Acknowledgements** Mr Abadh K Chaurasia for fundus photography.

**Compliance with Ethical Standards**

**Conflict of interest** None declared for all the authors.

**Informed Consent** A written informed consent was obtained from the patient for publication of this case report.

## References

1. Koshy J, John MJ, Thomas S, Kaur G, Batra N, Xavier WJ (2015) Ophthalmic manifestations of acute and chronic leukemias presenting to a tertiary care center in India. *Indian J Ophthalmol* 63:659
2. Soman S, Kasturi N, Srinivasan R, Vinod KV (2018) Ocular manifestations in leukemias and their correlation with hematologic parameters at a tertiary care setting in South India. *Ophthalmol Retina* 2:17–23

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.