

# 'Ring scotoma of ophthalmologists': a direct ophthalmoscopy view

Subhakar Reddy , Padmaja Kumari Rani 

Uveitis and Ocular Immunology services, Smt Kanuri Santhamma center for Vitreoretinal Diseases, LV Prasad Eye Institute, Hyderabad, Telangana, India

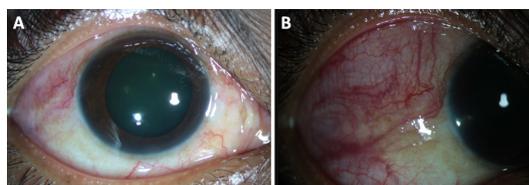
**Correspondence to**  
Dr Padmaja Kumari Rani;  
rpk111@gmail.com

Accepted 2 April 2020

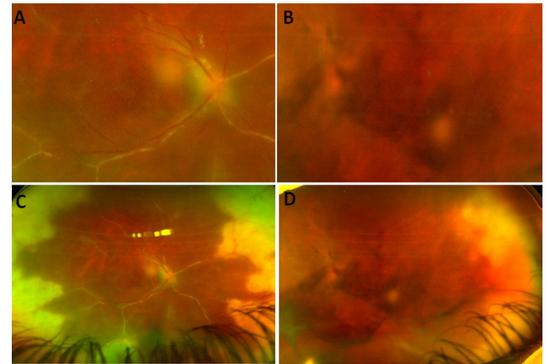
## DESCRIPTION

Use of direct ophthalmoscopy and missing peripheral retinal disorders is a global health problem which should be addressed soon. As an ophthalmologist at a tertiary centre, we see a lot of cases of retinal detachment with cause being at periphery like horseshoe tear/lattice and retinitis lesions. Indirect ophthalmoscopy should be included in comprehensive eye care by all practising ophthalmologists to identify peripheral retinal disorders. We aim to highlight a case of acute retinal necrosis (ARN) misdiagnosed as intermediate uveitis and started on oral steroids with subsequent progression of disease and visual morbidity.

A 34-year-old woman presented to us with gradual painful diminution of vision in her both eyes since 1 month. On examination, her best-corrected visual acuity (BCVA) was 20/80p N24 in the right eye and 20/80N18 in the left eye. Intraocular pressure in the right eye was 16 mm Hg and in the left eye, it was 18 mm Hg. Anterior segment examination showed diffuse anterior scleritis (figure 1A,B), fine keratic precipitates on endothelium, cells 2+ in both eyes. Fundus examination of the right eye showed hazy media due to vitritis, hyperemic optic disc, Kyrieleis arteriolitis and necrotising retinitis involving almost three quadrants in periphery and the left eye also showed similar findings except for lesser extent of retinitis. Possible direct ophthalmoscopy view (figure 2A,B) showing only posterior pole missing peripheral retinitis and indirect ophthalmoscopy/optos image (figure 2C,D) where peripheral retinitis is seen. So, based on classical clinical signs, a diagnosis of bilateral acute retinal necrosis (BARN) with panuveitis was made and the patient was started on intravenous antivirals, topical and oral steroids for 2 weeks followed by oral antivirals drugs in prophylactic dose to prevent recurrences. At the end of 2 months follow-up, retinitis healed completely (figure 3A,B) and BCVA improved to 20/60 N10, 20/40 p N 6 in the right and left eye, respectively (subnormal vision due to optic neuropathy).



**Figure 1** Diffuse illumination slit lamp photograph showing diffuse anterior scleritis.



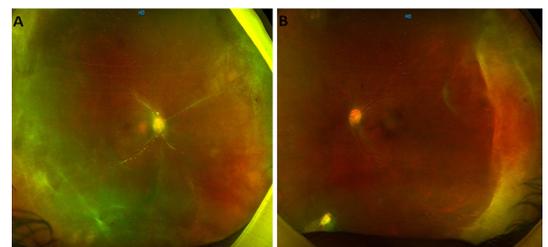
**Figure 2** Representative photograph of the fundus of possible direct ophthalmoscopy views of the right and left eye (A,B), respectively, showing only posterior pole missing peripheral retinitis and optos image/indirect ophthalmoscopy view of the right and left eye (C,D), respectively, showing peripheral retinitis suggestive of bilateral acute retinal necrosis.

Considering the fact that the left eye involved less than the right eye gives us the clue that right eye is involved first and as the patient is only on oral steroids without antivirals it might have led to the progression of lesion.

ARN, also known as Kirisawa's uveitis<sup>1</sup>, is characterised by a combination of peripheral necrotising retinitis which spreads concentrically, retinal arteritis (Kyrieleis plaques) and panuveitis<sup>2</sup>.

Direct ophthalmoscope gives magnified but less field of view upto equator and lack of stereopsis owing to the fact that it is a monocular instrument. Indirect ophthalmoscope gives biomicroscopic wide field of view upto ora serrata with less magnification and aids in peripheral retinal examination.

All ophthalmologists including those in peripheral centres should be trained in using indirect



**Figure 3** Fundus picture of the right and left eye, respectively, at 2 months follow-up, showing complete resolution of retinitis with pallor of disc due to optic neuropathy.

 Check for updates

© BMJ Publishing Group Limited 2020. No commercial re-use. See rights and permissions. Published by BMJ.

**To cite:** Reddy S, Rani PK. *BMJ Case Rep* 2020;**13**:e234794. doi:10.1136/bcr-2020-234794

## Patient's perspective

I am happy that after 1 month of suffering my eye problem was diagnosed and treated adequately. Barring the fact that I may have subnormal vision for lifetime I'm relieved that viral disease in my eye is diagnosed and treated so that it may not spread to other organs.

## Learning points

- ▶ Direct ophthalmoscopy can miss sight threatening peripheral retinal lesions; hence, dilated fundus examination with indirect ophthalmoscope is essential in all cases.
- ▶ Acute retinal necrosis (ARN) can present with anterior scleritis, retinal vasculitis, anterior uveitis or panuveitis.
- ▶ Optic neuropathy may be one of the causes of subnormal vision in a case of ARN.

ophthalmoscopy as peripheral retinal pathologies like retinal holes, horseshoe tears, lattice degenerations, peripheral retinitis lesions, retinopathy of prematurity and coats disease can

be missed easily with direct ophthalmoscopy which gives view upto posterior pole.

This article highlights the importance of indirect ophthalmoscopy to all ophthalmologists in day-to-day practice for complete comprehensive eye care.

**Contributors** SR and PKR were involved in manuscript writing and reviewed the article. Both the authors equally contributed in the preparation and review of the manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

## ORCID iDs

Subhakar Reddy <http://orcid.org/0000-0001-5683-7334>

Padmaja Kumari Rani <http://orcid.org/0000-0001-7069-8238>

## REFERENCES

- 1 Urayama A, Yamada N, Sasaki T, *et al*. Unilateral acute uveitis with retinal periarteritis and detachment. *Jpn J Clin Ophthalmol* 1971;25:607–19.
- 2 Usui Y, Goto H. Overview and diagnosis of acute retinal necrosis syndrome. *Semin Ophthalmol* 2008;23::275–83. Jul-Aug.

Copyright 2020 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <https://www.bmj.com/company/products-services/rights-and-licensing/permissions/>  
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

## Customer Service

If you have any further queries about your subscription, please contact our customer services team on +44 (0) 207111 1105 or via email at [support@bmj.com](mailto:support@bmj.com).

Visit [casereports.bmj.com](http://casereports.bmj.com) for more articles like this and to become a Fellow