

# Case notes

## Retinal hole

### Patient details

**Initials:** KJ  
**Age:** 61 years  
**Gender:** Male  
**Refraction:** RE: -4.75DS, LE: -5.25DS  
**Distance Acuity:** RE: 6/5, LE 6/5  
**Reading add:** RE & LE: +2.00D  
**Near acuity:** RE: N5, LE: N5  
**General health:** Good  
**Medication:** Atorvastatin  
**Ocular history:** Nil  
**Trauma:** Nil  
**Headaches:** Nil  
**Family history:** Nil

### Reason for visit

Vague flashes of light left eye  
for 3 days  
Some floaters for around a  
week, unsure which eye

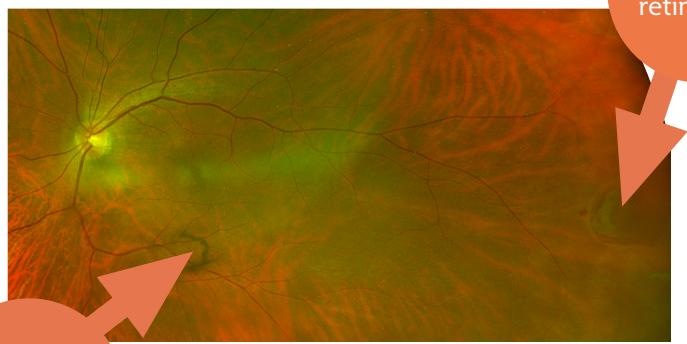
### Examination

#### Slit lamp & undilated Volk 90D

Right eye	Structure	Left eye
Clean	<b>Lids &amp; lashes</b>	Clean
Clear	<b>Cornea</b>	Clear
No cells/flare	<b>AC</b>	No cells/flare
Grade 3	<b>van Herick</b>	Grade 3
Clear	<b>Lens</b>	Clear
0.25	<b>C:D ratio</b>	0.25
Healthy	<b>NRR</b>	Healthy
Well-defined	<b>Margins</b>	Well-defined
No holes/ tears/detachment	<b>Periphery</b>	No holes/ tears/detachment

#### Fundus photograph left eye through undilated pupil





'Fish-mouth'  
retinal hole

## Further examination

### Pupil dilation with 1% tropicamide Volk 90D & wide-field imaging

Right eye	Structure	Left eye
No tobacco dust	<b>Vitreous</b>	Tobacco dust
No floaters		Weiss ring
No holes/tears/detachment	<b>Periphery</b>	Retinal hole
		Small haemorrhage

### College of Optometrists' Guidance<sup>1</sup> on examining patients who present with flashes and floaters

If you suspect a retinal break or tear, you should, as a minimum:

- take a detailed history and symptoms, looking for particular risk factors
- examine the anterior vitreous to look for pigment cells
- perform a dilated fundal examination, using an indirect viewing technique
- give appropriate advice to the patient, which you back up with written information.

## Learning points

- Patient KJ's retinal hole was not visible with undilated fundus photography and undilated indirect ophthalmoscopy
- Pupil dilation and/or wide-field imaging were necessary to detect KJ's retinal hole
- Posterior vitreous detachment (PWD) is a common cause of retinal detachment when a retinal hole develops in a location where there is strong adhesion between the retina and the vitreous - a retinal detachment then occurs due to ingress of fluid beneath the retinal tear
- A Weiss ring is a ring of glial tissue from around the optic disc margin that is avulsed during PVD
- Prevalence of PVD increases with age and axial length of the eye
- Up to 1 in 6 PVDs causes a retinal break and 1 in 25 a retinal detachment<sup>2</sup>
- Vitreous haemorrhage is associated with a 70% chance of a retinal break<sup>3</sup>
- Tobacco dust in the anterior vitreous correlates with a 90% chance of a retinal tear<sup>4</sup>
- To check for tobacco dust, focus the slit lamp just behind the patient's lens, then ask the patient to look up and down a few times to agitate any pigment cells that have been released following a retinal tear
- If a patient appears to have undergone an uncomplicated PVD, document on your record that you have given them verbal and written safety-netting advice.

1: College of Optometrists (2021). <https://www.college-optometrists.org/clinical-guidance/guidance/knowledge,-skills-and-performance/examining-patients-who-present-with-flashes-and-floaters>

2: Patel *et al* (2023). <https://www.sciencedirect.com/science/article/abs/pii/S2468653022005759>

3: Sarrafizadeh *et al* (2001). <https://pubmed.ncbi.nlm.nih.gov/11733270/>

4: Tanner *et al* (2000). <https://bjo.bmjjournals.org/content/bjophthalmol/84/11/1264.full.pdf>