FIVE THINGS TO KNOW ABOUT ...

Acute-onset floaters and flashes

Davin Johnson MD, Hussein Hollands MD MSc

Posterior vitreous detachment is a common age-related condition typically presenting as acute-onset floaters and flashes of light

Posterior vitreous detachment is the most common cause of acute-onset floaters or flashes of light. Its prevalence is 24% among adults aged 50–59 years, increasing to 87% among people older than 80 years.[1]

Posterior vitreous detachment, retinal tear and retinal detachment are a spectrum of disease

In posterior vitreous detachment, the vitreous shrinks and detaches from the retina leading to symptoms of floaters and/or flashes. In 14% of cases, tractional forces from the vitreous jelly on the retina cause a full-thickness retinal tear.[2] Left untreated, retinal tears allow fluid to enter the subretinal space (between the retina and choroid) and can progress to a retinal detachment and possible blindness (see image in Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.110686/-/DC1.

Patients presenting with likely posterior vitreous detachment should be referred to an ophthalmologist to exclude a retinal tear or detachment

The acute onset of floaters or flashes of light is often secondary to posterior vitreous detachment; however, the differential diagnosis also includes migraine aura (typically binocular symptoms of flashes) and other conditions. Patients with likely posterior vitreous detachment should be referred to an ophalmologist for a complete dilated eye examination with indirect ophthalmoscopy and scleral depression, or contact lens biomicroscopy, to exclude a retinal tear or detachment. Because most retinal tears are found peripherally, direct ophthalmoscopy alone is insufficient.

Physicians can identify "high-risk" features that warrant urgent referral

A recent meta-analysis supports same-day referral for any patient with acute onset of floaters or flashes of light and a defect in their visual field ("curtain of darkness").[2] Subjective visual reduction (likelihood ratio [LR] 5.0, 95% confidence interval [CI] 3.1–8.1) or the presence of vitreous hemorrhage (LR 10, 95% CI 5.1–20) or pigment (LR 44, 95% CI 2.3–852) suggest increased risk of retinal tear.[2] Patients with these symptoms require referral within 24 hours.[2] Both vitreous hemorrhage and vitreous pigment can be seen with a slit lamp focused on the anterior vitreous. Patients with acute onset of floaters or flashes of light but no defect in their visual field should be seen within one week.[2]

Uncomplicated posterior vitreous detachment may develop into a retinal tear within six weeks

Patients with uncomplicated posterior vitreous detachment should be re-examined by an ophthalmologist at six weeks, as 3.4% will have a new retinal tear.[3] Clues to the presence of such tears include a new shower of floaters or subjective visual reduction. Patients with these symptoms should be re-examined sooner.

References

1. Hikichi T, Hirokawa H, Kado M, et al. Comparison of the prevalence of posterior vitreous detachment in whites and Japanese. *Ophthalmic Surg* 1995;26:39-43.
2. Hollands H, Johnson D, Brox AC, et al. Acute-onset floaters and flashes: Is this patient at risk for retinal detachment? *JAMA* 2009;302:2243-9.
3. Dayan MR, Jayamanne DG, Andrews RM, et al. Flashes and floaters as predictors of vitreoretinal pathology: Is follow-up necessary for posterior vitreous detachment? *Eye (Lond)* 1996;10:456-8.

Competing interests: None declared.

This article has been peer reviewed.

Affiliations: From the Department of Ophthalmology (Johnson), Queen's University, Kingston, Ont.; and the Department of Ophthalmology (Hollands), University of Toronto, Toronto, Ont.

Correspondence to: Dr. Davin Johnson, 3dej@queensu.ca

***CMAJ* 2012. DOI:10.1503/cmaj.110686**

CMAJ invites submissions to "Five things to know about …" Submit manuscripts online at http://mc.manuscriptcentral.com/cmaj