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

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.

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

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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 ophthalmologist 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”).3 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.1 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

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