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Survey of Ophthalmology

Clinical challenges

Photopsia and a temporal visual field defect

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(In keeping with the format of a clinical pathological conference, the abstract and key words appear at the end of the article.)

1. Case report

A 30-year-old white female ophthalmologist presented with intermittent photopsia in her left eye. Three days later, while doing a confrontation visual field on herself, she noticed a temporal visual field defect just below the horizontal in the same eye and concurrently experienced flu-like symptoms. Her past medical and family history were unremarkable. She was myopic and astigmatic in both eyes and was not taking any medications or recreational drugs.

On initial examination, her visual acuity was 20/20 in both eyes. Amsler grid and color vision testing were normal, and there was no relative afferent pupillary defect. Humphrey visual field analyzer (HFA) 30-2 threshold perimetry and 120-point screening visual field demonstrated a defect in the left eye and a normal field of vision in the right eye (Fig. 1). The slit-lamp examination was unremarkable, without cells in the anterior chamber or in the vitreous, and the intraocular pressure was 12 mm Hg in both eyes. Fundus examination by multiple retinal consults and fluorescein angiography were unremarkable, (Fig. 2)

What is your differential diagnosis?

What study or studies would you perform?

2. Comments

2.1. *Comments by Gordon Plant, MD*

The history is of a young female ophthalmologist who is a myope presenting with phosphenes (photopsias) of recent

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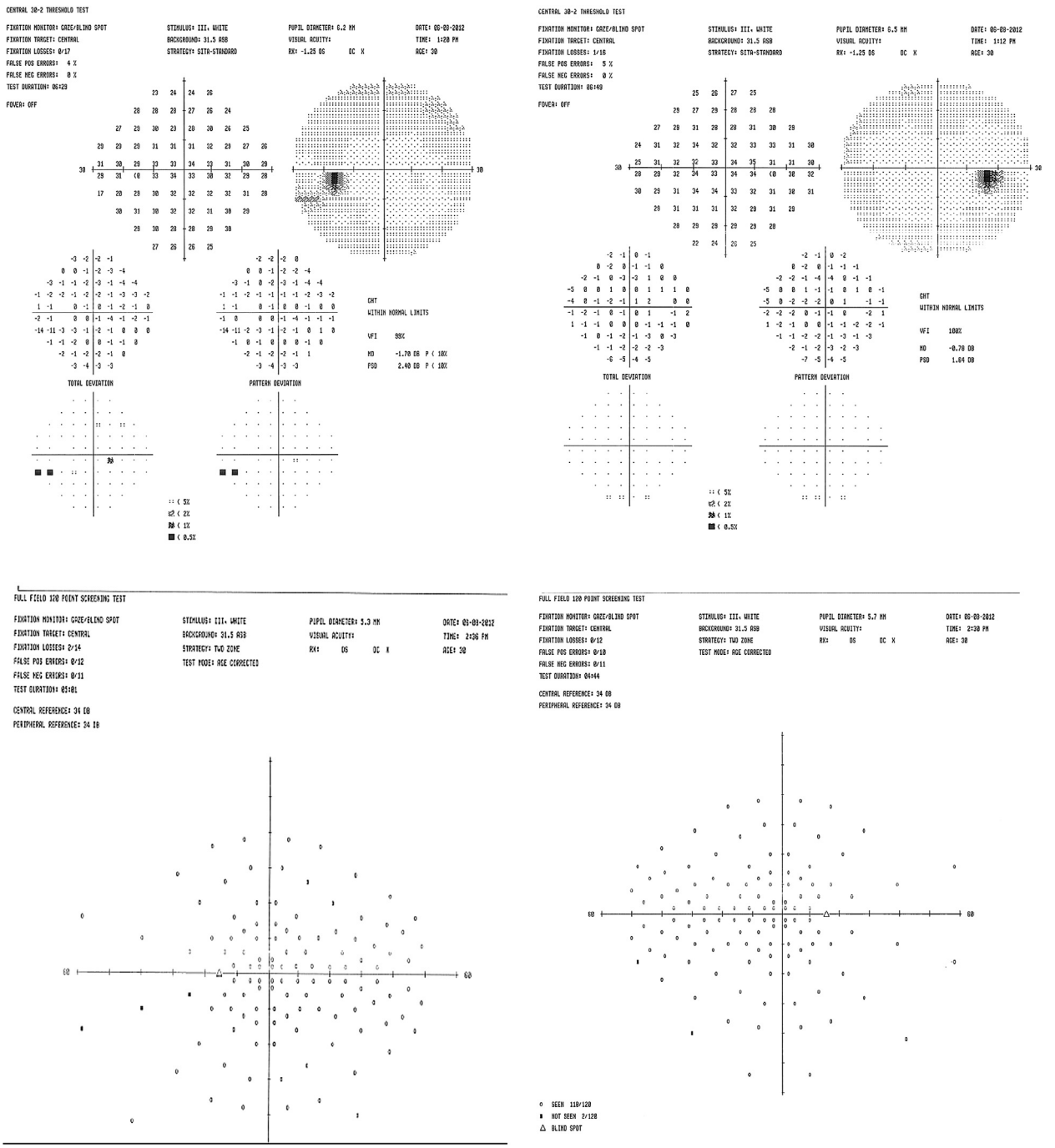

Fig. 1 – Humphrey visual field (*top row*), 120-point screening visual field (*bottom row; the left eye field is on the left in each row*).

onset and a self-reported temporal visual field defect. There is a suggestion of a possible viral infection.

I would always try to establish to my satisfaction whether the phosphenes are originating in retina/optic nerve or cortex as patients sometimes interpret positive symptoms localized to a hemifield as being localized to an eye. Generally, retinal phosphenes are more visible in the dark, whereas occipital phosphenes appear equally bright whether in the dark or looking at the noon sky. If caused by posterior vitreous detachment (PVD) phosphenes are often influenced by eye movements or jolting.

One wonders why an ophthalmologist would wait 3 days before presenting with photopsia as the first priority is to exclude a retinal detachment. PVD would be possible, but would not be associated with a visual field defect, and this finding would make a retinal detachment also possible whether associated with a PVD or not. PVD becomes less common at younger age, but more common with increasing degrees of myopia (we are not told what was the refractive error in this case). There is also recent interest in vitreous traction giving rise to optic disk–related visual field defects mimicking (or some say, the entire cause of) anterior ischemic optic neuropathy.