Sir,

Acute posterior multifocal placoid pigment epitheliopathy following influenza vaccination

Acute posterior multifocal placoid pigment epitheliopathy (APMPPE) is an acute self-limiting chorioretinal inflammatory disorder often associated with good long-term visual prognosis.[1] We report a case of APMPPE following human flu vaccination.

Case report

A 27-year-old white man presented with bilateral photophobia, metamorphopsia, and scotomas that were more prominent in the left eye (LE) 14 days after intramuscular administration of human flu vaccine. One week before presentation, flu-like symptoms appeared on him. At presentation, best-corrected visual acuity (BCVA) was 20/20 bilaterally. Slit-lamp anterior segment examination revealed $<1+$ cells. Dilated fundus examination revealed mild vitritis and multiple deep yellow-white placoid lesions of variable size at the level of the retinal pigment epithelium (RPE) in both eyes (Figure 1a and b). Fluorescein angiography (FA) showed bilateral multifocal early hypofluorescent lesions (Figure 2a and e) with late staining (Figure 2b and f). Indocyanine-green (ICG) angiography showed bilateral lesions that remained hypofluorescent at the late phase (Figure 2c–d and g–h).

On the basis of the clinical findings and history, and the normality of an extensive laboratory work-up, a diagnosis of APMPPE was made. Treatment was initiated with oral prednisone 0.5 mg/kg/day that was decreased gradually over 1 month. Over this period, the patient noticed significant improvement of his visual symptoms. Anterior and posterior segment inflammation regressed and most of the fundus lesions disappeared (Figure 1c and d). Three months after presentation, the patient was asymptomatic, BCVA was still 20/20 and repeated FA and ICG angiography showed marked regression of the lesions with some remaining RPE changes (Figure 2i–l).

Comment

APMPPE has been rarely described following vaccinations. One possible mechanism of this association may be molecular mimicry; sequence similarities between the introduced antigens and RPE may incite a host autoimmune reaction. Earlier reported vaccine triggers of APMPPE include the swine flu vaccine,[2] hepatitis B vaccine,[3] meningococcal C conjugate vaccine,[4] and varicella vaccine.[5]

Although, both varicella vaccination and flu vaccination are widely performed, reports of APMPPE occurring in weeks following vaccination are exceptional. To the best of our knowledge, this is the second report of

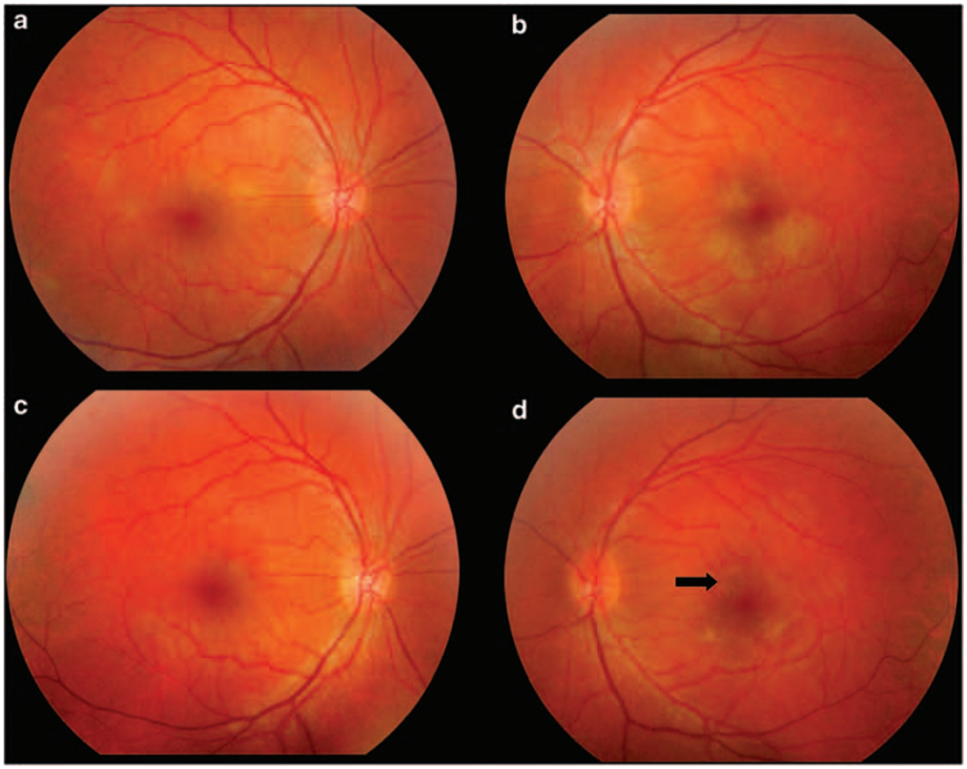

Figure 1 Colour fundus photographs of a patient with bilateral acute posterior multifocal placoid pigment epitheliopathy (APMPPE) following influenza vaccination. Colour fundus photographs of the (a) right and (b) left eyes (RE and LE, respectively) showing multiple yellow–white placoid lesions of variable size and with indistinct margins in the posterior pole at the level of the retinal pigment epithelium (RPE) blocking the ophthalmoscopic view of the underlying choroid, consistent with active APMPPE. Two months later, most of the lesions have regressed, whereas some persistent healed lesions show RPE atrophy and pigment clumping (black arrow; c and d).

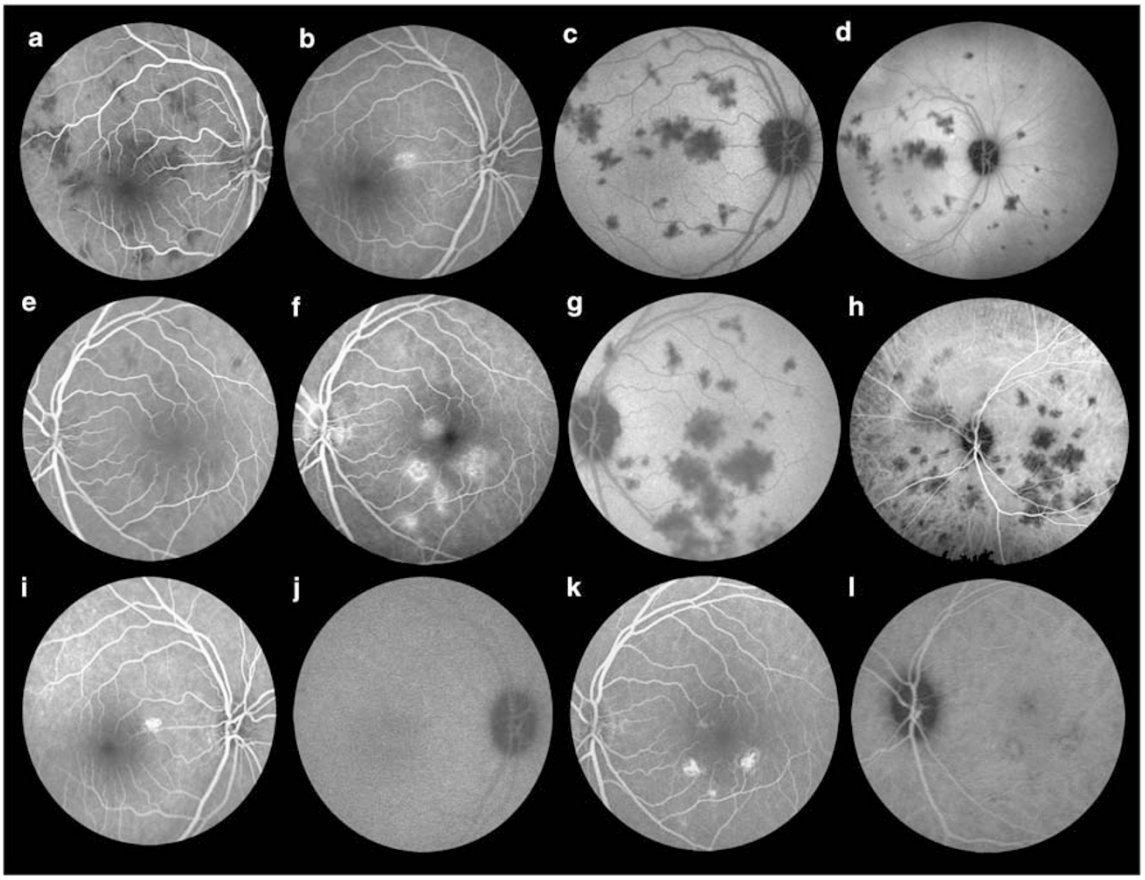

Figure 2 Fluorescein (FA) and indocyanine green (ICG) angiography of a patient with bilateral acute posterior multifocal placoid pigment epitheliopathy (APMPPE) following influenza vaccination. Early-phase FA of the (a) right and (e) left eyes (RE and LE, respectively) shows hypofluorescent lesions that stain and appear hyperfluorescent at the late phase (b and f). Late phase ICG angiography reveals well-dermacated placoid lesions of choroidal hypofluorescence (consistent with non-perfusion of the choriocapillaris layer) varying in size that are mainly located at the posterior pole (c and g), but also in the mid-peripheral retina as shown in the composite angiographic images (d and h); note that the lesions seen in ICG angiography outnumber those visible either in the colour fundus photographs or in FA. These angiographic findings are compatible with the diagnosis of active APMPPE. Follow-up FA (late phase) performed 3 months later, revealed regression of the placoid lesions with remaining areas of retinal pigment epithelial atrophy that appear hyperfluorescent corresponding to scarred APMPPE lesions (i and k). At that time, late phase ICG angiography shows regression of the hypofluorescent lesions that were previously present in both eyes (j and l).

APMPPE after flu vaccination and the first report after human flu vaccine. A hypersensitivity to the attenuated human influenza virus of the vaccine appears to have produced initial flu-like symptoms and APMPPE. However, we cannot exclude that the association reported herein may have occurred by chance or through a mechanism other than flu vaccination. Only prospective epidemiological studies and comparison with historic or control cohorts could help to link APMPPE occurrence and vaccination.

References

1 Jones NP. Acute posterior multifocal placoid pigment epitheliopathy. *Br J Ophthalmol* 1995; **79**: 384–389.
2 Hector RE. Acute posterior multifocal placoid pigment epitheliopathy. *Am J Ophthalmol* 1978; **86**: 424–425.
3 Brezin AP, Massin-Korobelnik P, Boudin M, Gaudric A, LeHoang P. Acute posterior multifocal placoid pigment epitheliopathy after hepatitis B vaccine. *Arch Ophthalmol* 1995; **113**: 297–300.
4 Yang DS, Hilford DJ, Conrad D. Acute posterior multifocal placoid pigment epitheliopathy after meningococcal C conjugate vaccine. *Clin Experiment Ophthalmol* 2005; **33**: 219–221.
5 Fine HF, Kim E, Flynn TE, Gomes NL, Chang S. Acute posterior multifocal placoid pigment epitheliopathy following varicella vaccine. *Br J Ophthalmol* 2008 (in press).

E Mendrinos and E Baglivo

Department of Ophthalmology, Geneva University Hospitals, Geneva, Switzerland
E-mail: edoardo.baglivo@hcuge.ch

The authors state that they do not have any financial or other support or interest

Eye (2010) **24,** 180–181; doi:10.1038/eye.2009.68; published online 3 April 2009