Bilateral persistent placoid maculopathy following COVID-19 vaccines: REAL or COINCIDENCE?

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Background

- Persistent placoid maculopathy was originally described by Golchet et al in 2006.[1] 30 cases in total reported in case reports/series.
- Idiopathic bilateral chorioretinopathy, most commonly seen in Caucasian men in the 6-7th decades of life.
- Eyes typically quiescent.
- Visual acuity (VA) is normally preserved early on but may deteriorate due to choroidal neovascularization (CNV), Retinal pigment epithelium (RPE) atrophy and disciform scarring.[2]

Case Presentation

58-year-old man otherwise fit & healthy.

March 2021: Developed "rash" on palms and feet after 1st dose AstraZenaca vaccine.

June 2021: Diagnosed with Pustular Palmar and Plantar Psoriasis by dermatologist.

July 2021: 2nd dose AstraZenaca vaccine followed by worsening of psoriasis. He was started on 60mg oral Prednisolone.

August 2021: deteriorating vision- both eyes VA: HM

Bloods

Full blood count: WCC 13, Platelet 468, Neutrophil 10.97, Plasma viscosity 1.91

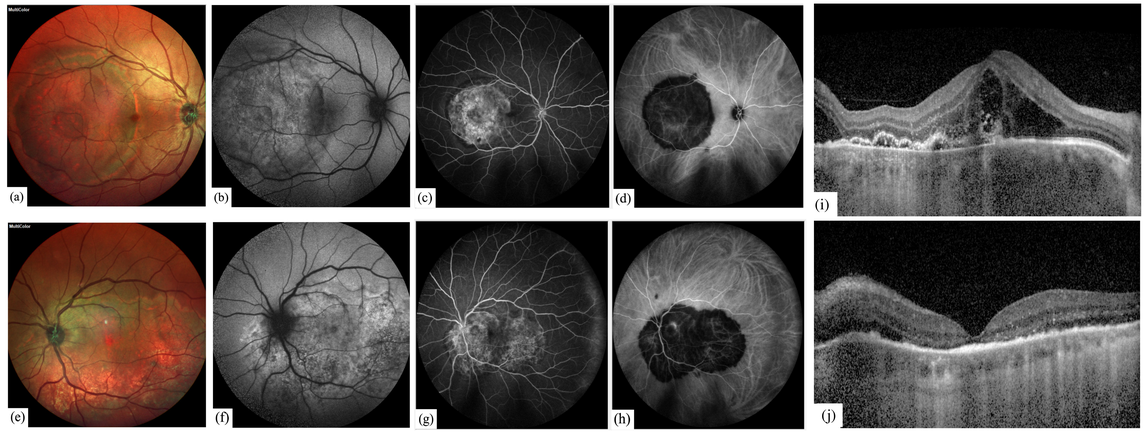
ESR 66, CRP 27

Urea & electrolytes, liver function test, bone profile normal.

Autoimmune screen: **MPO-ANCA raised**, otherwise negative.

Infective screen: Q-gold negative, VDRL negative, HIV negative.

Imaging Findings



Fundus colored images (a & e):
white central well-demarcated plaque-like lesion, sparing the peripapillary area in the RE and a larger lesion involving the whole macula and the peripapillary area in the LE.

Fundus autofluorescence (b & f):
mottled hyper-autofluorescent with intervening spots of hypo-autofluorescence, more speckled in the LE.

Fundus Fluorescein angiography (c & g):
early hypofluorescence corresponding to the lesions seen clinically, with punctate areas of hyperfluorescence and late staining.

Indocyanine green angiography (d & h):
hypocyanescent lesions throughout all phases in both eyes.

Macula Optical coherence tomography (OCT) (i & j):
alterations in the outer retinal layers with disruption of the interdigitation zone, inner segment-outer segment junction and the external limiting membrane with evidence of sub-foveal RPE proliferation as well as subretinal and intraretinal fluid in both eyes.

Differential Diagnosis

- Persistent placoid maculopathy
- Macular serpiginous choroiditis
- Acute posterior multifocal placoid pigment epitheliopathy

Interventions and Outcome

- Positive MPO-ANCA prompted rheumatology review.
- No evidence of renal/pulmonary involvement, unlikely Granulomatosis with polyangiitis.
- Active lesions and subretinal fluid on retina responded to oral corticosteroid, with gradual functional improvement. (VA: RE 0.5 , LE CF)

Conclusion

- COVID-19 vaccination has been accompanied by reports of inflammatory events.
- Our case demonstrated a likely inflammatory or autoimmune response to the COVID-19 vaccine affecting choriocapillaris causing hypoperfusion /ischaemia /vasculitis.

References

1. Golchet PR, Jampol LM, Wilson D, Yannuzzi LA, Ober M, Stroh E. Persistent placoid maculopathy: a new clinical entity. Ophthalmology. 2007 Aug 1;114(8):1530-40.

2. Kolomeyer AM, Brucker AJ. Persistent placoid maculopathy: a systematic review. Retina. 2018 Oct 1;38(10):1881-95.