A Newly Recognised Vitelliform Pattern: Multifocal Vitelliform Paravascular Retinopathy

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Introduction

Multifocal vitelliform paravascular retinopathy (MVPR) is a recently described vitelliform phenotype characterised by bilateral, multifocal lesions distributed along the major vascular arcades, typically hyperautofluorescent on fundus autofluorescence and relatively fovea-sparing.

Its atypical distribution may mimic inherited inflammatory or neoplastic conditions. Current awareness remains limited due to its recent classification, increasing the risk of misdiagnosis.

We present a case highlighting its multimodal imaging features and a benign clinical course to support accurate diagnosis and avoid unnecessary intervention.

Aims

To describe the multimodal imaging features of MVPR and highlight its characteristic paravascular pattern to support an accurate diagnosis and avoid unnecessary investigation.

Patient Profile

- 58-year-old female, asymptomatic with preserved visual function
- Incidental bilateral RPE abnormalities identified on routine optometry
- Visual acuity 6/6 bilaterally and normal visual fields.

Optical Coherence Tomography

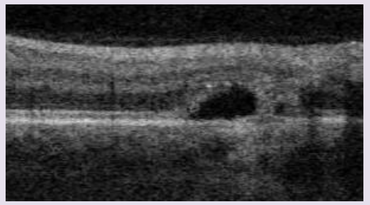

Figure 1. OCT through a hyperautofluorescent lesion with central hypoautofluorescence demonstrates a focal subretinal hyporeflective space consistent with evolution of a vitelliform lesion.

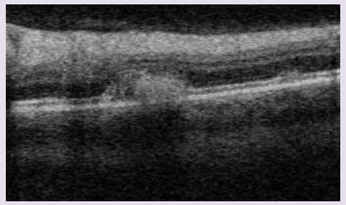

Figure 2. OCT through a typical hyperautofluorescent lesion demonstrates corresponding subretinal hyperreflective material consistent with vitelliform deposit.

Fundus Autofluorescence

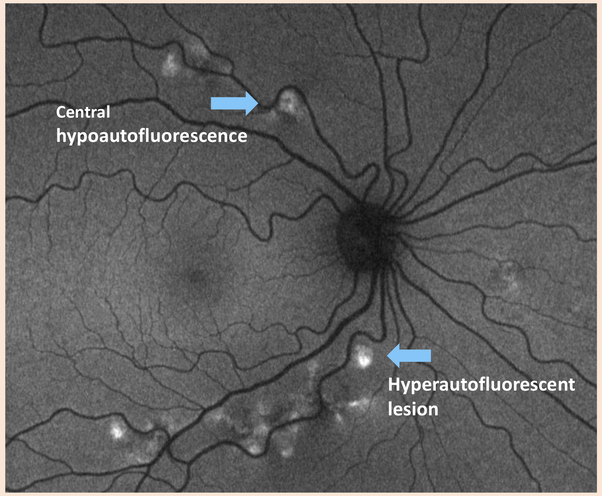

Figure 2. Fundus autofluorescence demonstrates multifocal hyperautofluorescent lesions in a characteristic paravascular distribution, clustered along retinal vessels with relative foveal sparing, features consistent with a vitelliform phenotype.

Systemic Evaluation & Follow-up

Investigations
- Bloods: **normal** (including inflammatory markers)
- Slit-lamp: **unremarkable**
- FFA: **no leakage or vasculitis**
- MRI/systemic imaging: **no malignancy**

Outcome
- Stable at 18-month follow-up

Conclusion
- Benign, non-inflammatory phenotype
- Support conservative management

Discussion

MVPR is a recently described vitelliform phenotype characterised by bilateral, multifocal lesions in a distinctive paravascular distribution, often with relative foveal sparing. This appearance may mimic inherited, inflammatory or neoplastic retinal disease, creating a risk of over-investigation or misdiagnosis.

Song et al. described lesions that were typically hyperautofluorescent on FAF with corresponding subretinal hyperreflective material on OCT, and noted that some evolved to central hypoautofluorescence with hyporeflective subretinal spaces or focal RPE atrophy (1). Our case demonstrates similar multimodal imaging findings, including paravascular hyperautofluorescent lesions with corresponding subretinal vitelliform changes on OCT.

As in the original case series, further investigations in our case did not support inflammatory, neoplastic or exudative pathology. Visual acuity remained stable over 18 months, and imaging findings were unchanged, supporting the generally benign clinical course described in the literature. Recognition of this characteristic FAF pattern is central to diagnosis and helps distinguish MVPR from other vitelliform disorders such as AVMD, as well as inflammatory or paraneoplastic mimics.

Conclusion

MVPR is a distinct and likely under-recognised vitelliform phenotype characterised by multifocal paravascular lesions with relative foveal sparing. Multimodal imaging, particularly FAF supported by OCT, is key to accurate diagnosis. Our case demonstrates stable visual function and non-progressive imaging over 18 months, supporting the benign course described by Song et al.
Recognition of this characteristic paravascular pattern is key to avoiding unnecessary investigation and inappropriate treatment.

References

1. Song W, Randhawa S, Johnson MW, Bohn M, Agarwal A, Rahimy E, et al. Multifocal Vitelliform Paravascular Retinopathy (MVPR): A New Disorder in the Vitelliform Spectrum. American Journal of Ophthalmology. 2025;269:362-72.