



Clinical Findings of the Posterior Uveal Effusion Syndrome

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Purpose and Introduction

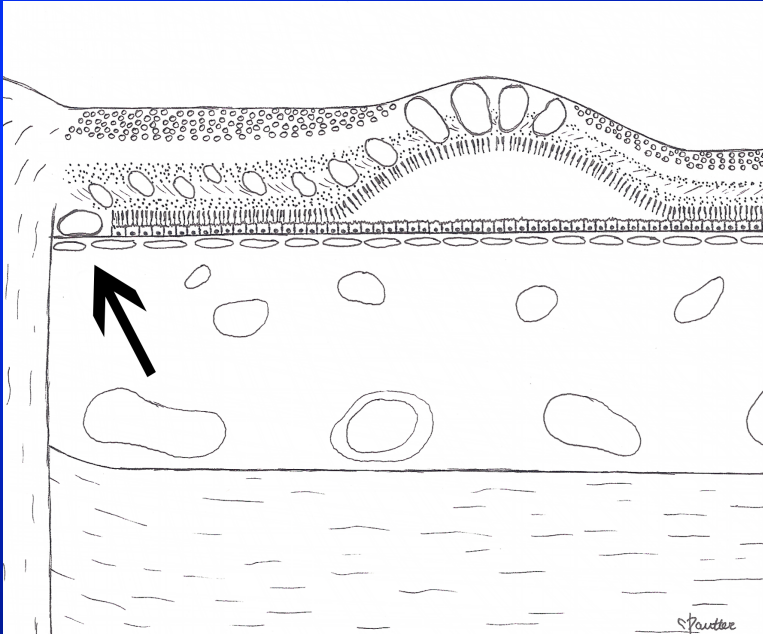
- To characterize the clinical findings of the Posterior Uveal Effusion Syndrome (PUES), a macular effusion associated with pachychoroid
- Posterior uveal effusion has been reported in the primary uveal effusion syndrome¹ and as an isolated macular effusion.² As an underappreciated phenomenon, we present the clinical findings and associations in a small case series

1. Harada T, et al. Choroidal findings in idiopathic uveal effusion syndrome. Clin Ophthalmol. 2011;5:1599-1601

2. Pautler SE, Browning DJ. Isolated uveal effusion: expanding the spectrum of the uveal effusion syndrome. Clin Ophthalmol. 2015;9:43-49



Patho-anatomy of PUES



- ◆ Effusion of fluid from a hyperpermeable, thick choroid
- ◆ Effusion passes from the choroid through a break-down in the blood ocular barrier at the disc margin where the retinal pigment epithelium (RPE) is attenuated (arrow)
- ◆ Macular edema results from effusion extending into intra-retinal space due to atrophy of outer retina overlying the RPE attenuation
- ◆ Subfoveal fluid results from macular edema extending through external limiting membrane into subfoveal space

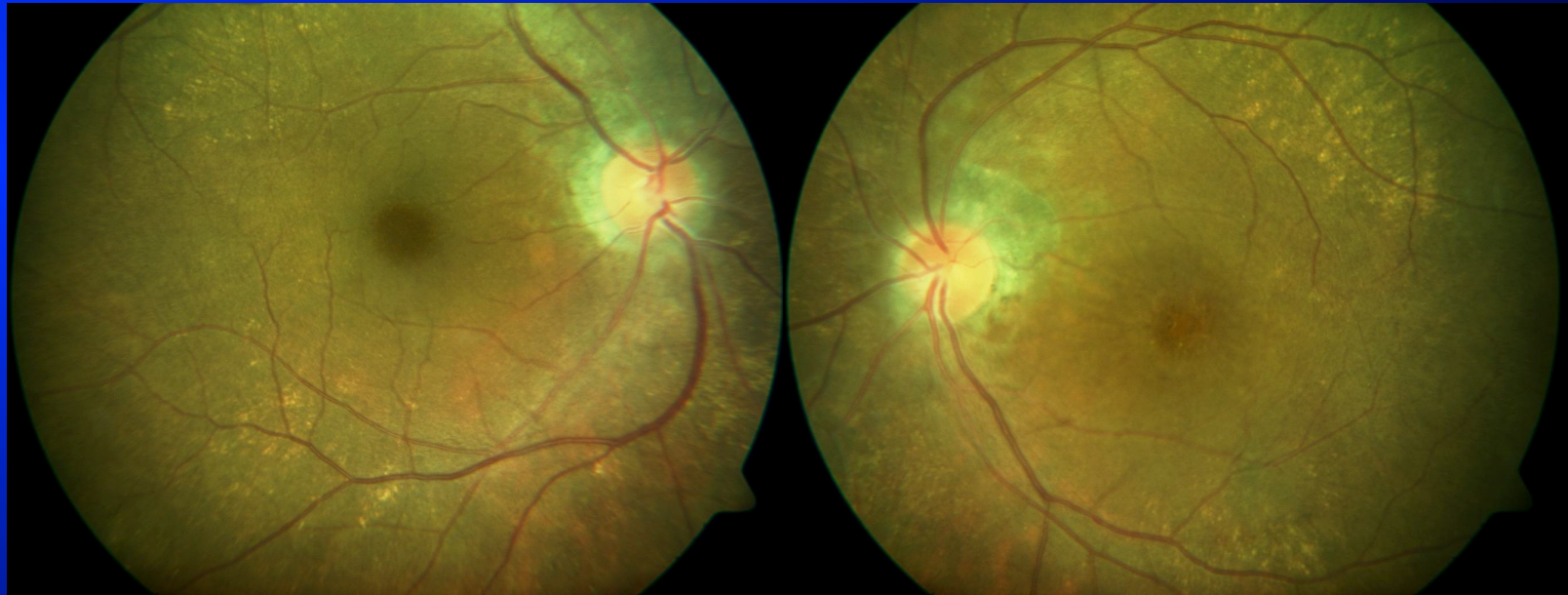


Methods

- Retrospective case series (N=7)
- Data analysis: visual acuity, fundus features, optical coherence tomography, fluorescein angiography.
- Signs of central serous choroidopathy and uveal effusion syndrome were identified.
- Inclusion criteria: Pachychoroid with cystic edema (+/- subfoveal fluid) contiguous to peripapillary atrophy
- Exclusion criteria: All other known causes of macular edema and/or subretinal fluid



Posterior Uveal Effusion Syndrome



Peripapillary Atrophy

No hemorrhage

Rare exudates

Note: drusen unrelated to PUES



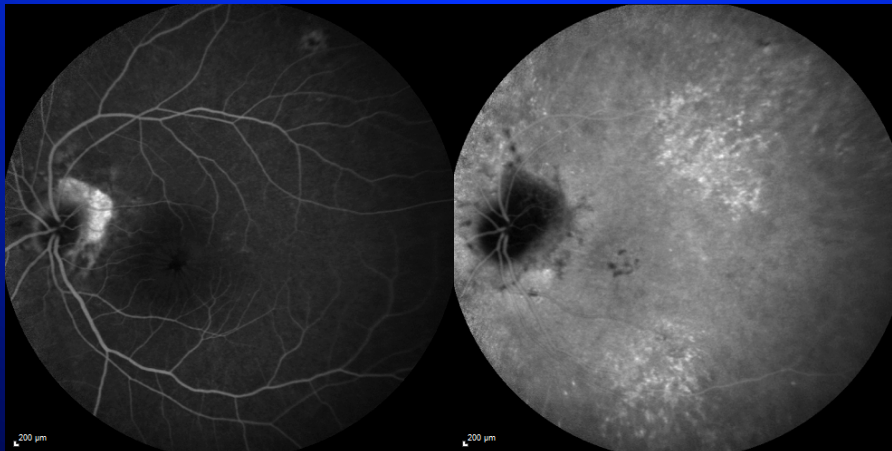
Fluorescein/Indocyanine Green Angiography

OD



FA: Hyperfluorescence of peripapillary atrophy without evidence of retinovascular or RPE leak

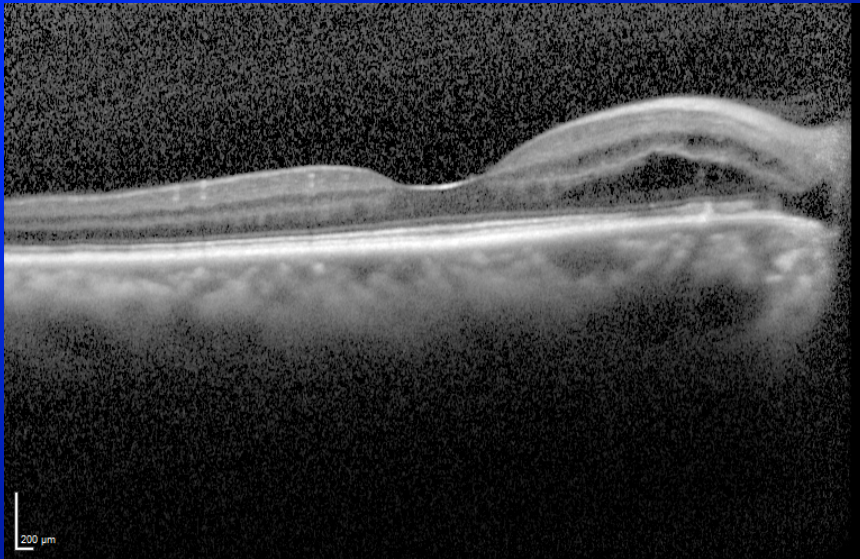
OS



ICGA: Hypercyanescence of drusen without definite sign of leakage. Late views may show hyperpermeability



Optical Coherence Tomography



OD



OS

Thick choroid with attenuation of retinal pigment epithelium (imaged OD) and outer retina temporal to the optic disc allowing effusion to pass from choroid into the neurosensory retina resulting in intra-retinal edema (seen OU) and secondary subretinal fluid (OS)



Results

- Age (years): range 56-80
 - mean 70, median 73)
- Gender: 6 male, 1 female
- Axial length (mm): range 20.63-22.69
 - mean 22.05, median 22.41
- Visual acuity: range 20/16 to 20/800
 - mean 20/90, median 20/35
- Subfoveal choroidal thickness (microns): range 338-712
 - mean 544, median 543
- Macular edema: 14/14 eyes
- Subfoveal fluid: 7/14 eyes
- Associated findings: None 2/7, PED 1/7, CSC 2/7, CSC/UES 1/7, UES 1/7
- Positive response to treatment: Carbonic anhydrase inhibitors (2 cases), photodynamic therapy (one case)
- Follow-up (months): range 1-18, mean 8.7, median 7



Conclusions

- Posterior uveal effusion syndrome (PUES) presents with thick choroid and macular edema temporal to the disc with peripapillary atrophy
- PUES is better termed pachychoroid macular effusion (PME) as it may be seen in isolation, with central serous choroidopathy, or with uveal effusion syndrome

