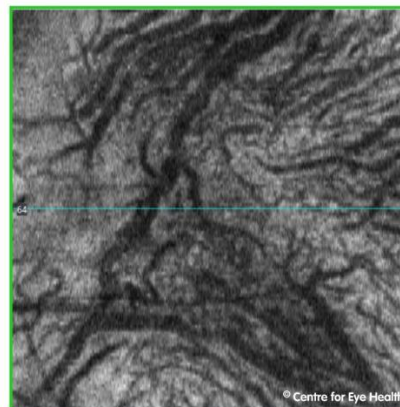
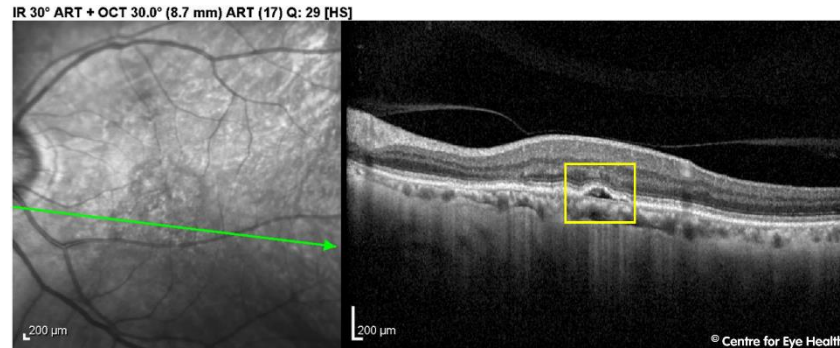
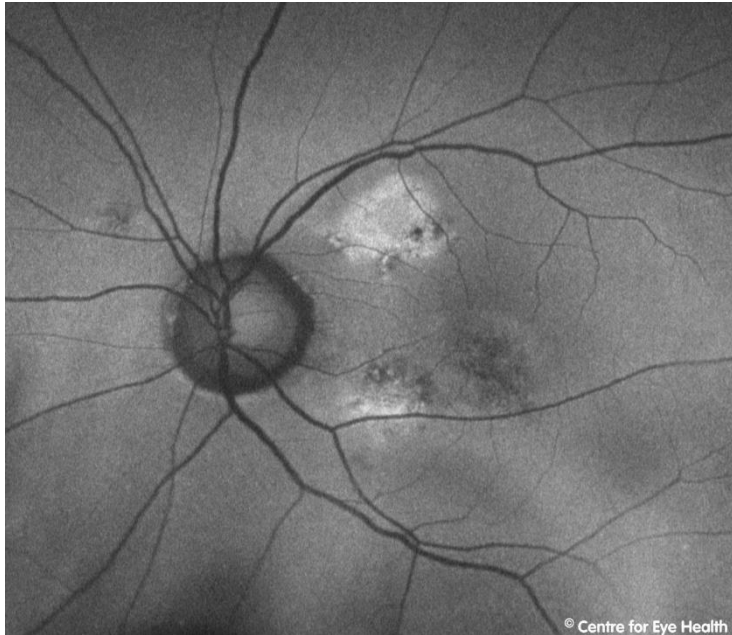


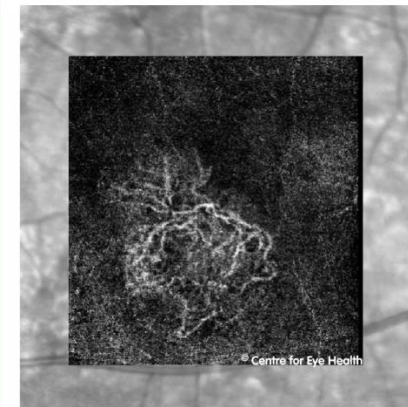


CFEH Facebook Case #143

A 69 year old Asian male was referred to the Centre for a macula assessment. Aided acuities were 6/7.5 OD and 6/9.5- OS. Fundus autofluorescence, OCT and OCT angiography results (taken through the area marked by the yellow square) are below. What is the most likely diagnosis for this patient?



En face image - sub RPE slab of 20µm thickness

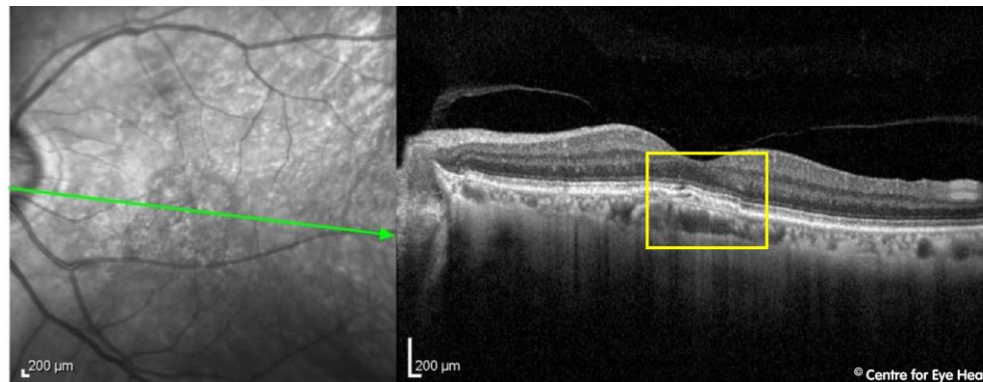


Avascular Complex

Answer

The OCT line scan in the first image shows an irregular serous pigment epithelial detachment (PED) containing some hyper-reflective material inferior to the fovea. The fundus autofluorescence image shows two areas of hyper-autofluorescence with adjacent mottled areas of hypo-autofluorescence and relative hypo-autofluorescence surrounding the fovea. The en face OCT image through the choroid shows enlarged choroidal vessels while the OCTA image of the avascular complex shows a network of irregular vessels, presumed to be choroidal neovascularisation. These clinical signs are consistent with a diagnosis of pachychoroid neovascularopathy (PNV).

One common feature seen in PNV is the presence of the “double layer sign” - a shallow, irregular elevation of the RPE, separating it from the underlying intact Bruch's membrane. This appears as two highly reflective layers: one at the level of the RPE and another beneath the RPE and can be seen in an additional OCT line scan in our patient (below)



PNV is part of the pachychoroid spectrum of disease; characterised by dilated/enlarged choroidal vessels (often corresponding to a thickened choroid) and associated with progressive RPE dysfunction. This disease spectrum includes pachychoroid epitheliopathy, central serous chorioretinopathy, PNV and polypoidal choroidal vasculopathy/aneurysmal type 1 neovascularization.

The underlying mechanism causing pachychoroidal changes is postulated to be microtrauma of Bruch's membrane due to the enlargement of vessels in Haller's layer of the choroid. This results in attenuation of the choriocapillaris and subsequent RPE changes which can progress to neovascularization in the later stages.

This patient was referred to an ophthalmologist for further investigation.