

# TOPOGRAPHIC CORRELATION OF RETINAL PIGMENT EPITHELIAL DETACHMENT TO CHOROIDAL FILLING DEFECTS IN CENTRAL SEROUS CHORIORETINOPATHY

Ang, Juan Lyn<sup>1</sup>; Rivero Alvarez, Jocelyne<sup>1</sup>; Bala, Chandra<sup>2</sup>; Mendis, Kanishka Randev<sup>1</sup>

<sup>1</sup>Canberra Hospital, Canberra, ACT, Australia.

<sup>2</sup>Royal Perth Hospital, Perth, WA, Australia.

## ► Purpose

Choroidal filling defects (CFD) and retinal pigment epithelial detachments (PED) have been reported to be associated with central serous chorioretinopathy (CSC). The localized shut down of the choriocapillaris (CC) could lead to an alteration in the trans-retinal pigment epithelium (RPE) hydrostatic pressure differential, affect the hydraulic conductivity, and lead to a delamination of the RPE from the Bruch's membrane causing a PED.

There is paucity, in the literature correlating the topography of the PED with CFD.

## ► Methods

This was a retrospective study. All consecutive patients diagnosed with CSC using optical coherence tomography (OCT) and fluorescein angiography (FA) at the retinal service at Canberra Hospital, Australia between 2012-2016 were included. Patients with poor quality images and those with exudative maculopathy due to choroidal neovascularisation secondary to CSC were excluded.

CSC diagnosis was confirmed in all selected patients with classic OCT features and typical 'smoke stack', 'inkblot' leak pattern on FA. Patients without the typical FA leak pattern were excluded.

CFD was defined as patchy choroidal hypofluorescence that remained hypofluorescent into the late venous phase of the FA. PED was defined as a smooth elevation of the RPE as seen on spectral domain OCT.

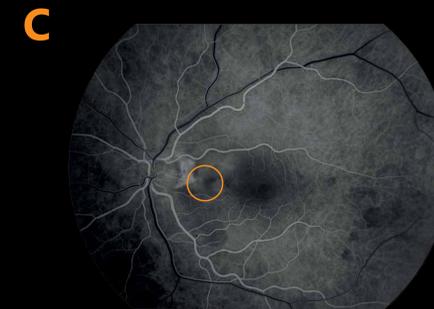
Topographic relationships between PED location and CFD, as seen on FA, were subsequently determined. The outcome measure was the anatomical correlation of the CFD to PED.



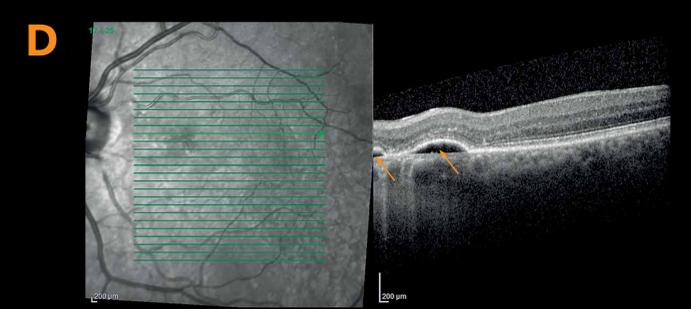
An example of a smoke stack leak on fluorescein angiography.



An example of an ink blot leak on fluorescein angiography.



Areas of choroidal filling defect on fluorescein angiogram.



Pigment epithelial detachments (arrows) on optical coherence tomography.

Note the area of choroidal filling defect (circle) in (C) topographically correlates with the area of pigment epithelial detachment (arrows) in (D).

## ► Results

A total of 40 patients were identified and 39 eyes of 36 patients were selected for further investigation. Then mean age was 43.6 years ( $\pm 9.4$  years). There were 32 males and 4 females. Five patients reported a history of steroid use and 10 patients reported stressful life events related to presentation.

There were 9 eyes with a smoke stack and 30 eyes with an inkblot RPE leak pattern on FA. There were 32 eyes (82.1%) with a CFD and 13 eyes (33.3%) with a PED. The eyes with PED correlated 100% with CFD.

## ► Conclusions

The degree of topographic correlation of PED to CFD may imply a causative relationship however this result will require further investigation and reproduction.