Abstract 101

ANOMALIES OF THE RETINAL CAPILLARY PLEXUSES IN ADULT COATS DISEASE ON OCT ANGIOGRAPHY

Oral

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Purpose:

To describe and quantify the anomalies of the retinal capillary plexuses using Optical Coherence Tomography Angiography (OCTA) in Coats disease.

Methods:

Eleven eyes of 11 patients with adult Coats 'disease compared to 9 fellow eyes and to 6 healthy eyes.
Horizontal bands of contiguous 3x3mm OCT angiograms were acquired from the optic disc to 6 mm temporal to the fovea, through areas of Coats telangiectasia visible on fluorescein angiography (FA) in 9 eyes and through an apparently normal capillary bed in 2. Montages of the superficial vascular plexus (SVP) and the deep capillary complex (DCC) were created.
Main outcome measure: Vascular density (VD) and fractal dimension (FD) of the SVP and the DCC

Results:

The VD was significantly decreased in Coats eyes compared to normal and fellow eyes respectively (SVP: 21.5 vs 29.4 %, p 0.000004 and 30.3%, p 0.000001. DCC, 16.5 vs 23.9%, p 0.0002 and 24.7%, p 0.00001). The FD was also significantly decreased in affected eyes (SVP: 1.796 vs 1.833, p=0.003 and 1.848, p 0,001. DCC: 1.762 vs 1.838, p 0.004 and 1.853, p 0,003). The SVP and DCC's VD was also significantly decreased in areas without Coats telangiectasia on FA. In the areas of Coats telangiectasia, the DCC was coarse dilated and rarefied, forming an incomplete network.

Conclusions:

In Coats disease, the VD and the FD of the retinal capillary plexuses are decreased, including in areas with no visible telangiectasia on FA. The capillary pattern is more disorganized in the DCC than in the SVP.