

# Macula capillary perfusion evaluation with spectral domain OCT and its correlation to HbA1C levels and clinical duration of diabetes mellitus.



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Financial disclosure:

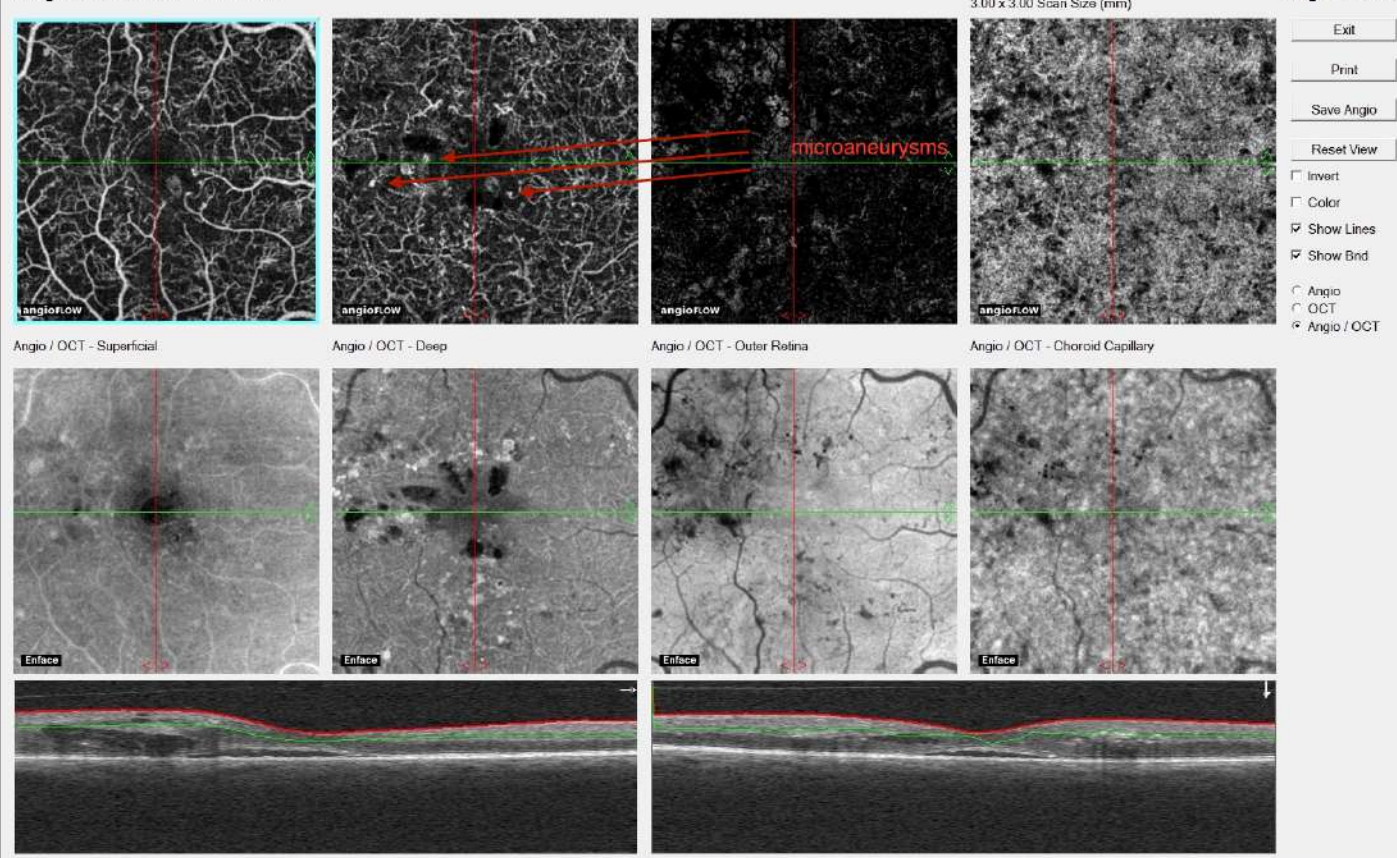
Skouteris: none

Kanellopoulos: Consultant for Alcon, Avedro, Allergan, i-Optics, Optovue, Keramed, Zeiss, ISP Surgical

**Purpose:**  
Comparative non-invasive  
evaluation of macula blood flow  
changes in diabetes mellitus.

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## Angio Structure-Function



MA's, good FAZ  
size, edema  
Macula perfusion  
insight

# Retina OverVue

12.00 x 9.00 Scan Size (mm)

Right / OD

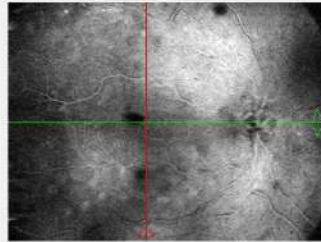
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Print

En Face

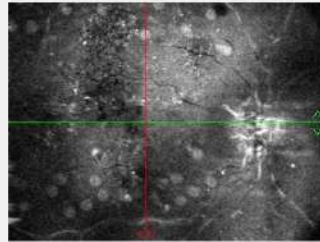
Reset View

☐ Tint



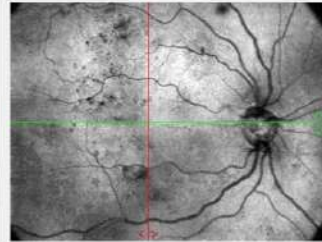
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ILM - Offset: 0 Thickness: 60



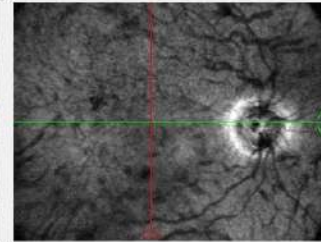
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IPL - Offset: 0 Thickness: 90



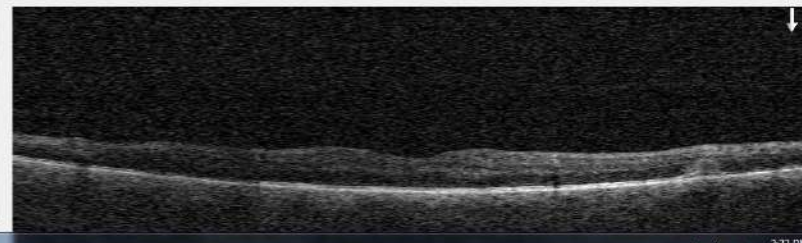
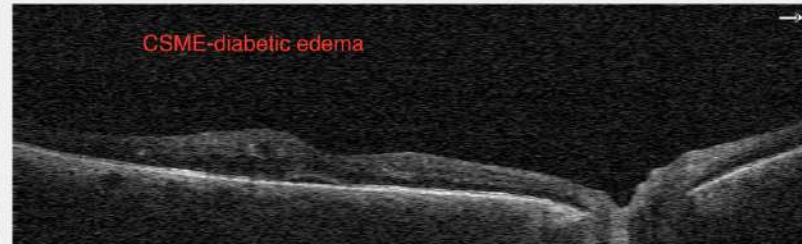
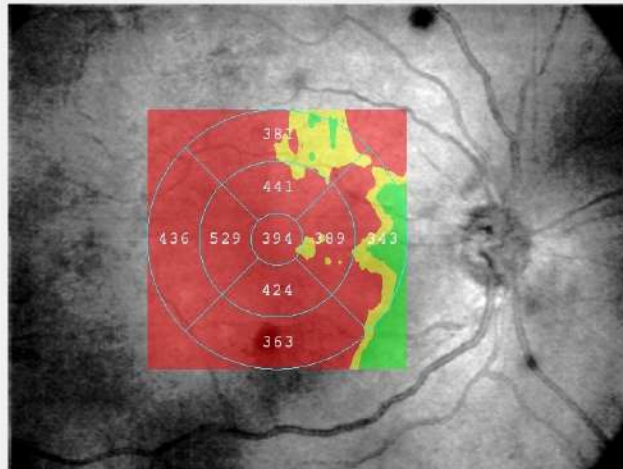
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RPE - Offset: -60 Thickness: 90



Enface

RPE Ref - Offset: 90 Thickness: 120



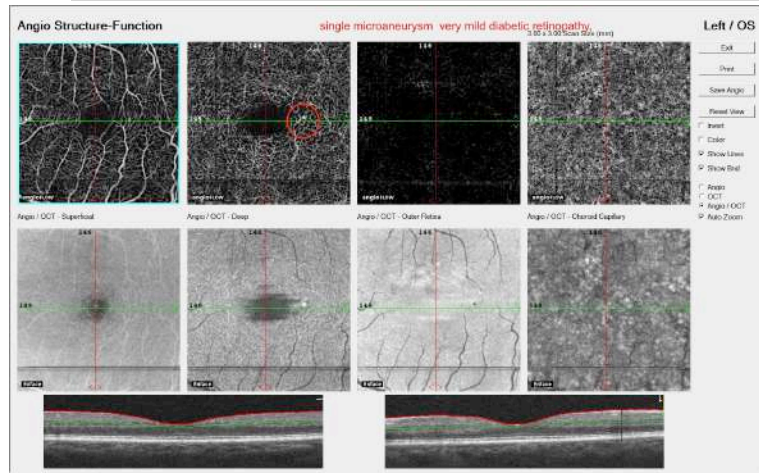
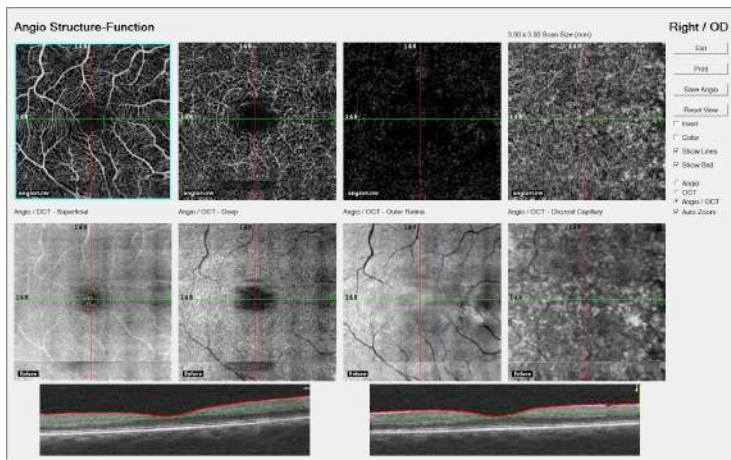
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# Methods:

We evaluated 95 consecutive patients with known diabetes mellitus. Both eyes of each case were imaged with the angioflow software of the AngioVue Imaging System (Optovue, Fremont, CA). Correlation of the capillary macula plexus was made in regard to the years of clinical diagnosis and HbA1C levels.



# Results:

6 of the 95 cases showed significant macula capillary OCT angiography changes that correlated closely with HbA1C levels over 8% and over 5 years of clinical diagnosis.

Microaneurysms, macula edema, capillary dropout and FAZ enlargement were in order of frequency of occurrence the most common findings.

There was one case with uneven contralateral eye findings

# Conclusions:

Possible Vascular macula flow pathology, such as capillary dropout, microaneurysms, macula edema were easily evident in routine evaluation of diabetics with this non-invasive vascular flow study (OCT-angiography).

The fact that no intravenous dye was used increases safety and facility of the exam, therefore reinforces patient compliance with routine such checks

These data may significantly aid clinicians in the progress and prognosis of diabetic retinopathy.