

# **Anti-VEGF-related vascular density level alteration in patients with CNV: An Optical Coherence Tomography Angiography Study.**

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## **Purpose**

Recent studies do not support the hypothesis of vascular normalization in eyes receiving various intravitreal anti-vascular endothelial growth factor (VEGF).

In this retrospective study we measured vessel density in patients with CNV (choroidal neovascularization) response to Lucentis Eylea and Avastin treatment using Swept Source Optical Coherence Angiography (OCT-A)

## **Methods**

The mean age of 54 women and 36 men, was 65,9 (Standard Deviation  $\pm$  15,8). All participants were examined using DRI OCT Triton by a single trained technician. After quality check only 163 images of 163 eyes were included.

12 patients naive to treatment, 32 patients with one to four injections, 31 with more than five injections as well as 19 previously treated patients with no active AMD were included. The last group consisted of 69 healthy eyes.

Each patient had two 6x6 mm scans. Vessel density was calculated using ImageJ software. Pixel intensity was divided by the area size.

## **Results**

We observed 14% decrease in vessel density in control group ( $1,78 \pm 0,14$ ) compared to untreated patients ( $2,04 \pm 0,25$ ). In group with more than four injections mean density was  $1,74 \pm 0,20$  whether in eyes with less than four the level was  $1,90 \pm 0,48$ . Patients with a history of AMD had slightly higher vascular density level than those currently undergoing treatment ( $1,90 \pm 0,38$ ). P value was 0,03538)

## **Conclusion**

Our data suggest that vascular density level significantly decrease after anti-VEGF injection. However, the density level in patients who underwent treatment but had no active AMD was higher than in currently treated ones. Further research is needed to confirm results of this study.

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