

## Abstract 172

### SELECTING A DISCRIMINATING THRESHOLD FOR THE SEVERITY OF DIABETIC RETINOPATHY: RELEVANCE OF THE ROC CURVE

Poster

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#### **Purpose:**

To identify the discriminating thresholds of the vascular density index (VDI) and lacunarity measured in OCT-Angiography in relation to the severity of diabetic retinopathy (DR) and to determine their likelihood ratios and predictive values according to a predefined prevalence level.

#### **Methods:**

Retrospective case-control study conducted from January to December 2019. Eyes were divided into a group with severe non proliferative or proliferative DR and a control group with absent, minimal or moderate DR. We used the ROC curve from which we determined the most discriminative threshold value of VDI and lacunarity with the best pair {sensitivity (Se), specificity (Sp)} using the Youden index (YI). We calculated the area under the curve (AUC), the likelihood positive (LR+) and negative (LR -) ratios and the positive (PPV) and negative (NPV) predictive values of these tests, using Bayes' theorem (BT) and Fagan's nomogram (FN).

#### **Results:**

A total of 56 eyes were included in the study (18 cases;38 controls). The cut-off value for the VDI was 2.41 (YI =0.659). The AUC was 0.852 [p=0.001]. The LR+ and the LR- were 3.636 and 0.121, respectively. The PPV and the NPV were 42% and 0,96% according to BT and 45% and 0,6% using FN. The threshold value for the lacunarity was 0.347 (YI =0.526). The AUC was 0.809 [p=0.014]. The LR+ and the LR – were 2.801 and 0.257, respectively. The PPV and the NPV were 48% and 0.92% according to BT and 49% and 0.25% using FN.

#### **Conclusions:**

ROC curves play a significant role in determining the best threshold of the VDI and lacunarity to discriminate between eyes with severe and less severe damage. Thus, in the epidemiological context of diabetes and its potentially retinal impairment, OCT-A could represent a non-invasive biomarker of the severity of DR.