

## Abstract 192

### COMPARISON OF 50° HANDHELD FUNDUS CAMERA VERSUS ULTRA-WIDEFIELD TABLE-TOP FUNDUS CAMERA FOR DIABETIC RETINOPATHY DETECTION AND GRADING

Oral

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#### **Purpose:**

To compare the performance of Optomed Aurora® handheld fundus camera with standard 50° visual field to ultra-widefield (UWF) table-top fundus camera in diabetic retinopathy (DR) detection and grading.

#### **Methods:**

Patients affected by diabetes mellitus and referred to our diabetic retinopathy clinic were enrolled and underwent fundus photography in mydriasis. All photos were taken using the ultra-widefield table-top fundus camera Zeiss Clarus™ 500 and the Optomed Aurora® handheld fundus camera. The following parameters were analyzed: the gradability of the images, the grade of DR, and diabetic maculopathy (DM), the presence of hypertensive retinopathy (HR) and the presence of other ocular diseases.

#### **Results:**

We enrolled 759 eyes of 384 diabetic patients and analyzed 5313 fundus photos. Aurora® obtained a sensitivity of 84.2% and specificity of 95.4% for referable cases. Moreover, Aurora® obtained, compared to UWF, an almost perfect agreement with linear weighting for DR, DM and HR ( $k=0.877$ ,  $k=0.854$  and  $k=0.961$  respectively). The lowest sensitivity was achieved for proliferative DR (58.7% sensitivity, 100% specificity).

#### **Conclusions:**

Optomed Aurora® handheld fundus camera imaging showed a strong agreement compared to UWF in grading DR, considering all DR and DM grades, in mydriasis. However, the use of UWF imaging increases the detection of referable eyes.