P3.3
Evaluation of fixation on glaucomatous and normal subjects using Compass
Luca Mario Rossetti, Paolo Fogagnolo, Giovanni Montesano, Maurizio Digiuni
Department of Ophthalmology, Ospedale San Paolo, Università degli Studi di Milano, Milan - Italy

Purpose: To study the features of fixation in a population of normal and glaucomatous patients using Compass, a novel, fully automated device consisting in a scanning ophthalmoscope combined with an automated perimeter and a retinal tracker (CenterVue, Padova, Italy).

Methods: 320 subjects (120 normal, 200 with glaucoma) were enrolled. Fixation was evaluated by means of a series of 250 locations sampled at intervals of 0.04 sec over a 10 sec period, prior to projection or the perimetric stimuli. Three parameters were calculated: 1) the deviation of the Preferred Retinal Locus (PRL) from the retinal position corresponding to the fixation target; 2) the mean tracked deviation of gaze positions from the PRL (PRL-D); 3) the mean of the distance between one tracked position and the following (Seq-D). Data were analyzed using linear models with logarithmic transformation to account for the skewness of strictly positive data.

Results: The two study population showed, on average, different values for PRL (Mean ± SD deg; Normal: 0.32 ± 0.31, Glaucoma: 0.50 ± 0.90, p = 0.0097), PRL-D (Normal: 0.31 ± 0.28, Glaucoma: 0.42 ± 0.40, p = 0.035) and Seq-D (Normal: 0.08 ± 0.06, Glaucoma: 0.11 ± 0.08, p = 0.0005).

Conclusions: In this preliminary study, the two populations showed different fixation patterns. Seq-D, which measures fixation instability, is higher in glaucoma patients. The clinical implications of such findings need to be verified.