ABSTRACT

Purpose: To determine the correlation between retinal sensitivity and fixation area, calculated by BCEA, and the change in retinal sensitivity in the various pathologies studied (Macular Pucker, Degenerative Myopia, Macular Degeneration and Glaucoma).

Materials and Methods: We enrolled 47 patients, 28 females and 19 males, aged 61.44 ± 12.32, for a total of 47 eyes in 13 healthy controls, 12 with macular pucker, 9 with degenerative myopia, 7 with senile macular generation and 6 with glaucoma; in all patients was carried out using the microperimetry microperimeter MP-1 (Nidek Technologies). We analyzed the normality of the distribution curve of retinal sensitivity test using Curtosi. Statistic significance between the control group and the other groups was evaluated using the Student t test. Spearman's coefficient was calculated for the correlation between retinal sensitivity and fixation area calculated by BCEA in the three standard deviations (BCEA1,2,3 respectively).

Results: the value of Curtosi test was -1.04, indicating that the distribution curve of retinal sensitivity was not normal. The Student t test calculated between the control group and the other groups, showed that the difference between groups was not statistically significant (t = 0.014, p = 0.99, CI = 95%). The retinal sensitivity in the control group (healthy subjects) was 16.26 ± 3.45 dB, BCEA1 0.39, BCEA2 average equal to 1.07, 1.91 BCEA3 media; in the group of patients with macular pucker retinal sensitivity was 13.49 ± 3.78 dB, BCEA1 average 0.98, BCEA2 2.65 average, BCEA3 4.74; patients in the group of degenerative myopia with retinal sensitivity was 7.15 ± 3.58 dB, BCEA1 average was 3.73, BCEA2 average was 10.07, BCEA3 average was 17.99; in the group of patients with degenerative senile maculopathy sensitivity was 5.48 ± 1.08 dB, BCEA1 average 4.00, BCEA2 media 10.77, BCEA3 average 19.26, in the group of patients with glaucoma, the retinal sensibility was 10.3 ± 3.28 dB, BCEA1 average 1.308, BCEA2 average 3.848, BCEA3 media. Spearman correlation (IS) between BCEA1 and retinal sensitivity was -0.50, between BCEA2 and retinal sensitivity was -0.70, between BCEA3 and retinal sensitivity was -0.60.

Conclusions: There is a negative correlation between retinal sensitivity and fixation area calculated by BCEA: increase of retinal sensitivity corresponds to a decrease of the fixation area. Retinal sensitivity is considerably reduced in the DMS and degenerative myopia.