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Color vision in patients with Hereditary Retinal Dystrophy

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Purpose. The objective of this study is to evaluate the chromatic discrimination in patients with hereditary retinal disease. Few studies in national literature have been related about it. **Methods**. Color discrimination was evaluated monocularly by the Farnsworth-Munsell 100 Hue test (FM100). Participants were eleven patients (six men and five women) with previously diagnosed hereditary retinal dystrophy aging from 12 to 57 (40.9±12.3) years. Thirty normal volunteers (19 women and 11 men) aging from 18 to 54 years (24.26 ± 12.3 years) were tested as a control group. For this group the inclusion criteria were: BCVA≥0.0 logMAR, normal fundus, absence of history for hereditary eye disease and/or ocular surgery and informed consent.

Results: Out of 11 patients with hereditary retinal diseases, 5 patients had retinitis pigmentosa, 2 cone dystrophy and 1 had Stargardt disease and all of them showed low color discrimination (error score > 100). Two patients with Best disease and one with familial drusen presented average color discrimination (error score 17-100). In the control group, 3 (10%) presented superior discrimination (total error of 0 to 16) and 27 (90%) presented average discrimination. The color vision discrimination was statistically worse in the group with hereditary retinal degenerations (T = 1545.5000, P = < 0.011).

Conclusions: These preliminary data demonstrated that the Farnsworth-Munsell 100 has been showed useful in color discrimination of hereditary retinal diseases and these results are consistent with the literature.