The Royal College Of Ophthalmologists
Liverpool 19-22 May 2025
Annual Congress

جامعة المنصورة
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Mansoura Ophthalmic Center

Correlation Between Contrast Sensitivity and Retinal Nerve Fiber Layer Thickness in Patients with Primary Open-Angle Glaucoma

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PURPOSE

This study aimed to evaluate contrast sensitivity and retinal nerve fiber layer (RNFL) thickness in patients with primary open-angle glaucoma (POAG).

Design

This was a cross-sectional observational study

Patients and Methods

Study conducted on a total of 195 eyes included 95 eyes of 55 patients with POAG and 100 healthy control eyes of 50 subjects. The glaucomatous eyes were divided into three groups mild (41.1%), moderate (26.3%) and sever (32.6%). Contrast sensitivity assessment was done by Pelli Robson Test and Oculus Mesotest II. P value of less than 0.05 was used for all tests, and it proved to be statistically significant.

RESULTS

The mean age of patients with POAG was (57.89±8.49) years, while in the control group was (55.59±10.37) years. There were statistically significant differences between the two groups as regards BCVA and IOP. POAG groups were associated with statistically significant increase in cup/disc ratio and significant decrease in the mean deviation compared to control group. There was a statistically significant decrease in contrast sensitivity and RNFL thickness in POAG group compared with control group. There were statistically significant positive correlations between contrast sensitivity assessment and all RNFL parameters in POAG group.

CONCLUSION

Contrast sensitivity has been correlated with RNFL thickness in POAG patients. Contrast sensitivity and RNFL thickness play an important role in detection of POAG.

Published in Egyptian Journal of Ophthalmology (MOC) 2024;4(2):60-69 (Original article).



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rco2025.0540161