P2.067

CLINICAL ASSESSMENT OF OPTIC DISC AUTOMATIC HIGH DEFINITION MULTICOLOR STEREO VS DIGITAL MONOSCOPIC PHOTOGRAPHS BY GLAUCOMA SPECIALISTS AND BY GENERAL OPHTHALMOLOGISTS

Francesco Oddone¹, Carmela Carnevale¹, Manuela Ferrazza¹, Manuele Michelelli¹, Lucia Tanga¹, Francesca Berardo¹, Ivano Riva¹, Luca Agnifili², Gianluca Manni³

¹Glaucoma Unit, IRCCS-Fondazione G.B. Bietti, Rome - Italy
²Ophthalmology Clinic, Department of Medicine and Aging Science, “G. d’Annunzio” University of Chieti-Pescara, Chieti - Italy
³DSCMT, University of Rome Tor Vergata, Rome - Italy

Purpose: To compare the intraobserver and the interobserver agreement and the accuracy of classification of optic disc automatic high definition multicolor stereophotographs vs digital monoscopic photographs by glaucoma specialists and by general ophthalmologists.

Methods: 1 eye from 36 consecutive healthy subjects (mean age 56.7 ± 6 years, 20 females and 16 males) and 31 age-matched glaucomatous patients (mean age 57.3 ± 5 years, 18 females and 13 males) were included in the study. Glaucoma was defined by the presence of a reproducible visual field defect with corresponding damage at the retinal nerve fiber layer and neuroretinal rim at the OCT. Digital monoscopic optic disc photographs were obtained by a non mydriatic fundus camera (Nidek AFC-230/210, Nidek Technologies, Japan) while automatic optic disc stereophotographs were obtained by the Compass Perimeter (CenterVue s.p.a., Padova, Italy). Optic disc assessment was performed twice, 1 week apart, by 1 glaucoma specialist and by 1 general ophthalmologist. Stereo and mono photographs were presented in random order and graded as either normal or glaucomatous in a masked fashion. Intra-observer and inter-observer agreement were analyzed by Cohen’s Kappa. Agreement with the diagnosis of glaucoma was assessed by sensitivity and specificity.

Results: Intraobserver agreement with stereophotographs (K value range: 0.68-0.82) was greater than monoscopic photographs (K value range: 0.57-0.67). Interobserver agreement had a Kappa value of 0.65 with stereophotographs and 0.58 with monoscopic photographs. Classification based on stereophotographs showed a greater agreement with the diagnosis of glaucoma for both glaucoma specialist (Stereoscopic photographs, sensitivity = 75%, specificity = 93%; monoscopic photographs, sensitivity = 70%, specificity = 91%) and general ophthalmologist (Stereoscopic photographs, sensitivity = 68%, specificity = 88%; monoscopic photographs, sensitivity = 65%, specificity = 85%).

Conclusion: Optic disc automatic high definition multicolor stereophotographs evaluation showed higher intra- and interobserver agreement than monoscopic photographs. Both glaucoma specialist and general ophthalmologist showed higher ability in discriminating normal from glaucoma optic disc when assessing automatic stereoscopic than monoscopic photographs.