

second – in late stage of disease. From visual field examination was rated deviation map from age related norm values and compared with OCT Spectralis optic nerve retinal nerve fiber layer measurements.

Results. Showed the average age of patients were 73.94 ± 0.95 years. Glaucoma in early stage was diagnosed in 96 (70.1%) of patients eyes, but in late stage – 41 (29.9%) eyes. In early stage of glaucoma patients the positive correlation between functional and structural damage were found in 73.1% of cases, but in 26.9% the damage were not found of one of diagnostic methods ($p < 0.005$, χ^2 method). Looking through out the results in early stage of disease the structural damage were recognized in 83.58% cases, but functional visual field loss in 81.33% cases. In late stage of glaucoma patients the positive correlation between the diagnostic methods was in 95% of all cases, but in 5% the OCT didn't show the damage as wide as visual field ($p < 0.018$ by χ^2 method).

Conclusion. This study again certify that there is no irreplaceable diagnostic method for glaucoma and the intraocular pressure measurements, computerized visual field, OCT optic nerve disc retinal nerve fiber layer scan compliments each other.

PSa04-06

Falsch niedrige Intraokulardruckmessung durch Intubationsnarkose

Zuche H.¹, Morinello E.², Viestenz A.¹, Fiorentz M.¹, Seitz B.¹, Volk T.², Viestenz A.¹

¹Klinik für Augenheilkunde, Homburg/Saar, Germany, ²Klinik für Anästhesie und Intensivmedizin, Homburg/Saar, Germany

Hintergrund. Die Messung des intraokularen Drucks (IOD) ist im Rahmen der Glaukomdiagnostik bei Kindern und in ihrer Kooperation beeinträchtigten Patienten in Intubationsnarkose (ITN) ein wichtiges diagnostisches Mittel. Der IOD kann jedoch durch eine Intubationsnarkose erheblich verfälscht werden. Die vorliegende Studie soll das Maß des IOD-Abfalls durch eine ITN evaluieren.

Patienten und Methoden. Der IOD wurde bei 134 Patienten am nicht zu operierenden Auge bei allen Patienten im Liegen vor und 5 min nach Einleitung der ITN mit dem Dynamischen Contour-Tonometer (DCT) gemessen.

Ergebnisse. Der IOD fiel von 20,0 mmHg vor ITN auf 14,0 mmHg 5 min nach ITN-Einleitung ($p < 0.0001$; IOD-Abfall: $6,0 \pm 2,5$ mmHg, Range: 0 bis 13,8 mmHg). Die ITN verursachte eine IOD-Senkung um bis zu 2 mmHg bei 7%, zwischen 2,1 und 6 mmHg bei 38%, zwischen 6,1 und 10 mmHg bei 50%, und von mehr als 10 mmHg bei 5% der Augen.

Schlussfolgerung. Bei einer Vollnarkose muss eine erhebliche Absenkung des IOD von im Mittel 6 mmHg beachtet werden – im Einzelfall sogar bis 13,8 mmHg. Dies sollte bei der IOD-Abschätzung in ITN berücksichtigt werden.

PSa04-07

Evaluation of optical correction efficiency at intraocular pressure reduction in patients with primary open-angle glaucoma

Shchadnykh M.¹, Bezditko P.¹

¹Kharkiv National Medical University, Ophthalmology, Kharkiv, Ukraine

Objective. The aim of our study was to investigate the role of visual load levels in the IOP elevation at the patients with prostaglandin analogs usage and try to optimize the conditions for their effects on the uveoscleral outflow.

Methods. 33 participants aged 43 to 68 years (average, 54.9 ± 7.17) were selected. Inclusion/exclusion criteria were a primary open angle glaucoma, best corrected visual acuity ≥ 0.6 , IOP higher than individual tolerance with latanoprost 0.005% for 4 weeks. Subjects were divided into 2 comparable groups. In each group the thickness of the ciliary body by ultrasound biomicroscopy was investigated, level of near visual load and tolerated correction for near were defined. Near visual load could be insignificant (near visual load irregular, less than 1 hour per day), low

(near visual load up to 3 hours a day), moderately high (near visual load from 3 to 6 hours per day), high (near visual load more than 6 hours a day). We prescribed for the first group of patients hypercorrection of presbyopia (from 0.25 to 1.0 diopters with a median of 0.5 diopters). Prescription of correction was made progressively, incrementally, in steps of 0.25 diopters. Patients in both groups were followed up with periodic examinations: tonometry was performed monthly and once in three months checking of visual acuity, perimetry and ophthalmoscopy were made.

Results. The true intraocular pressure was in average 19.8 ± 0.83 mmHg, which is 16.5% more than the average tolerated pressure and 38.5% more than the target IOP. In both groups 85% of the eyes with POAG had moderately high and high near visual load. Maximal ciliary body thickness at the both groups was significantly higher than the average in patients with POAG and with the corresponding age in other studies. After 1 year in the group 1 was significant reduction of intraocular pressure (17.3 ± 0.84 mm Hg), close to the average tolerant IOP (17.0 ± 0.67 mm Hg) and statistically significant decrease in the thickness of the ciliary body was observed, more marked in patients with high near visual load ($r = 0.47$). Progression of glaucoma according to perimetry was significantly less in this group. Overcorrection of presbyopia, as a way to regulate IOP may be in addition to antihypertensive therapy for glaucoma. The greatest impact it has on ophthalmotonus of patients with high visual load. The role of increased visual load in rigidity of IOP to prostaglandins seems high because in 85% of the subjects it was moderately high and high.

PSa04-08

First analysis of the objectively measured disc damage likelihood scale by KOWA non mydriatic fundus camera and its correlation to Heidelberg retina tomography and optic coherence tomography

Pahlitzsch M.¹, Torun N.², Brünner J.¹, Jacob S.², Erb C.³, Bertelmann E.⁴, Klamann M.²

¹Charite, Berlin, Germany, ²Berlin, Germany, ³Augenklinik am Wittenbergplatz, Berlin, Germany, ⁴Univ.-Augenklinik, Berlin, Germany

Introduction. To assess the correlation of the disc damage likelihood scale (DDLs) objectively measured by KOWA fundus camera with the confocal laser scanning ophthalmoscopy (HRT) and the optic coherence tomography (OCT) in primary open angle glaucoma (POAG).

Patients and methods. In this prospective study 154 eyes of 79 Caucasian patients with POAG were included. Two stereometric measurements of the optic disc by KOWA fundus camera were taken and the optic disc size and DDLs were determined. Mean Moorfields regression analysis (MRA), mean glaucoma probability score (GPS) and optic disc size were measured by HRT. Mean global retinal nerve fibre layer (RNFL) was measured by OCT. The relationship among DDLs, HRT parameters, and OCT RNFL was analysed by correlation coefficients and linear regression analysis.

Results. The optic disc size measured by HRT ranged from 1.1 mm² to 3.7 mm² and from 1.5 mm² to 5.4 mm² measured by KOWA fundus camera ($r = 0.55$, $p < 0.001$). Mean DDLs was 1.44 ± 0.7 , mean Moorfields regression analysis was 2.12 ± 9.52 , mean GPS global parameter was 0.67 ± 0.273 , and mean RNFL was 79.63 ± 39.74 . The DDLs showed significant correlation with MRA ($r = -0.296$, $p = 0.03$) and RNFL ($r = -0.326$, $p < 0.001$). No significant correlation between the DDLs and glaucoma probability score analysis ($r = 0.046$, $p = 0.66$) was present.

Discussion. The objectively determined DDLs by KOWA fundus camera performed well compared to MRA and RNFL evaluation. Additionally to HRT and OCT, the KOWA fundus camera appeared to be a reliable and effective tool in optic disc evaluation in glaucoma.