Perbandingan Hasil Pemeriksaan Pattern Erg (PERG) Pada Primary Open Angle Glaucoma (POAG) Derajat Early, Moderate, Dan Severe Dan Korelasinya Dengan Ketebalan Retinal Nerve Fiber Layer (RNFL) Dan Ganglion Cell – Inner Plexiform Layer (GCIPL) = Comparison of Pattern ERG (PERG) Result in Early, Moderate, and Severe Primary Open Angle Glaucoma (POAG) and The Correlation with Retinal Nerve Fiber Layer (RNFL) and Ganglion Cell - Inner Plexiform Layer (GCIPL) Thickness

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Abstrak

Latar belakang. Penelitian ini bertujuan mendapatkan gambaran data dasar nilai normal pERG, ketebalan RNFL dan GCIPL pada subjek normal dan subjek dengan POAG derajat early, moderate dan severe serta menilai korelasi antara masing-masing modalitas pemeriksaan.
Metode. Penelitian potong lintang yang dilakukan pada 36 mata normal dan 42 mata dengan POAG (derajat early, moderate dan severe) usia 18-60 tahun di RSCM. Semua subjek menjalani pemeriksaan oftalmologi dasar dan pemeriksaan penunjang yaitu Humphrey standard automated perimetry, OCT peripapil dan makula menggunakan CirrusTM dan pERG menggunakan MonPack One dari Metrovision.
Hasil. Berdasarkan data normal didapatkan ketebalan rerata RNFL 106,3 ± 11,0 m, ketebalan rerata GCIPL 83,3 ± 3,5 m, waktu implisit P50 52,7ms , amplitudo P50 7,9 (3,4 – 15,6) V, waktu implisit N95 101,3 ± 5,2 ms, amplitudo N95 10,6 (6,0 – 18,7) V. Dibandingkan dengan kelompok POAG early didapatkan perbedaan bermakna pada ketebalan RNFL (p = 0,007), amplitudo P50 (p = 0,005) dan amplitudo N95 (p = 0,004), tanpa perbedaan bermakna pada ketebalan GCIPL, sedangkan pada kelompok moderate dan severe didapatkan perbedaan pada semua variabel (p<0,05). Korelasi positif sedang dan lemah ditemukan pada kelompok normal antara ketebalan RNFL dengan amplitudo P50 dan N95, tidak ada korelasi hasil pemeriksaan pERG dengan ketebalan GCIPL.
Kesimpulan. Pattern ERG adalah pemeriksaan objektif yang dapat membedakan antara kelompok normal dengan POAG, pemeriksaan pERG pada POAG harus memperhatikan floor effect.
.....Introduction. The study aims to evaluate and compare the pERG result, RNFL and GCIPL thickness in normal group to the groups with early, moderate and severe POAG and evaluate its correlation.
Methods. Cross-sectional study was done on 36 normal eyes and 42 eyes with POAG (mild, moderate and severe),subjects with age range of 18-60 years old in RSCM Kirana. Each group underwent complete basic ophthalmology examinations, Humphrey standard automated perimetry, peripapillary and macular OCT CirrusTM and MonPack One pERG from Metrovision.
Results. The data on normal group were as follow: RNFL thickness 106,3 ± 11,0 m, GCIPL thickness 83,3 ± 3,5 m, P50 implicit time 52,7 ms , P50 amplitude 7,9 (3,4 – 15,6) V, N95 implicit time 101,3 ± 5,2 ms, N95 amplitude 10,6 (6,0 – 18,7) V. Significant differences were found in RNFL thickness (p = 0,007), P50 amplitude (p = 0,005) and N95 amplitude (p = 0,004) in the early POAG group compared to the normal group, meanwhile on moderate and severe group all of the variable examination result including the GCIPL thickness were significantly different (P<0,05). Positive moderate and weak correlations were found

between RNFL thickness in normal group with P50 and N95 amplitude, no correlation between pERG result with GCIPL thickness.

Conclusion. Pattern ERG is an objective tools to differentiate between normal and POAG subjects, pERG examination in POAG group especially the severe group needs to evaluate the floor effect by doing the prior OCT examination.