

INTISARI

Latar Belakang: Glaukoma merupakan penyebab kebutaan ireversibel kedua terbanyak di dunia, ditandai oleh kerusakan progresif saraf optik dan penyempitan lapang pandang. Evaluasi progresivitas glaukoma penting untuk menentukan keberhasilan terapi dan mencegah penurunan fungsi visual lebih lanjut. Pemeriksaan *optical coherence tomography* (OCT) dan *Humphrey Field Analyzer* (HFA) merupakan metode utama dalam menilai perubahan struktural dan fungsional pada pasien glaukoma.

Tujuan: Mengetahui karakteristik pasien glaukoma primer di RSUP Dr. Sardjito Yogyakarta serta mengevaluasi perubahan parameter struktural (*retinal nerve fiber layer*/RNFL) dan fungsional (*mean deviation*/MD dan *visual field index*/VFI) antara dua pemeriksaan, serta hubungan karakteristik pasien dengan progresivitas glaukoma.

Metode: Penelitian ini merupakan studi observasional dengan desain retrospektif pada pasien dengan diagnosis glaukoma primer yang menjalani pemeriksaan OCT dan HFA minimal dua kali di RSUP Dr. Sardjito selama periode 2020–2025. Data meliputi jenis kelamin, usia, diagnosis, lateralitas, tahap glaukoma, nama dan dosis obat, jumlah obat, tekanan intraokular (TIO), visus, rata-rata ketebalan RNFL, VFI, MD, serta waktu antara pemeriksaan. Analisis data dilakukan menggunakan statistik deskriptif, analisis bivariat, dan analisis multivariat.

Hasil: Tidak ditemukan perubahan ketebalan RNFL yang signifikan antara dua pemeriksaan pada seluruh kelompok diagnosis glaukoma primer. Penurunan VFI yang signifikan diamati pada kelompok glaukoma sudut terbuka juvenil (JOAG), dengan perubahan sebesar $-2,50\%$ ($p = 0,005$) sedangkan peningkatan VFI yang signifikan diamati pada kelompok glaukoma primer sudut terbuka (POAG), dengan perubahan sebesar $+1,50\%$ ($p = 0,030$). Peningkatan MD yang signifikan diamati pada kelompok POAG, dengan perubahan sebesar $+0,70$ dB ($p = 0,011$). Hasil analisis bivariat dan multivariat menunjukkan tidak terdapat hubungan yang bermakna antara jenis kelamin, usia, diagnosis, tahap glaukoma, jumlah obat, dan waktu antara dua pemeriksaan dengan progresivitas pasien glaukoma primer di RSUP Dr. Sardjito Yogyakarta.

Kata kunci: glaukoma primer, progresivitas, visus, tekanan intraokular, *retinal nerve fiber layer*, *visual field index*, *mean deviation*, *optical coherence tomography*, *Humphrey Field Analyzer*.

ABSTRACT

Background: Glaucoma is the second leading cause of irreversible blindness worldwide, characterized by progressive optic nerve damage and visual field impairment. Glaucoma progression monitoring is essential to determine treatment response and prevent further decline of visual function. Optical Coherence Tomography (OCT) and Humphrey Field Analyzer (HFA) examinations are the primary methods for assessing structural and functional changes in glaucoma patients.

Objective: To identify the characteristics of primary glaucoma patients at Dr. Sardjito General Hospital, Yogyakarta, and to evaluate changes in structural (retinal nerve fiber layer/RNFL) and functional (mean deviation/MD and visual field index/VFI) parameters between two examinations, as well as the relationship between patient characteristics and glaucoma progression.

Method: This study was an observational study with a retrospective design involving patients diagnosed with primary glaucoma who underwent OCT and HFA examinations at least twice at Dr. Sardjito General Hospital during 2020–2025. Collected data included sex, age, diagnosis, laterality, glaucoma stage, drug name and dosage, number of antiglaucoma medications, intraocular pressure (IOP), visual acuity, average RNFL thickness, VFI, MD, and the time interval between examinations. Data analysis was performed using descriptive statistics, bivariate, and multivariate analysis.

Result: No significant changes in average RNFL thickness were found between the two examinations across all primary glaucoma groups. A significant decrease in VFI was observed in the juvenile open-angle glaucoma (JOAG) group, with a difference of -2.50% ($p = 0.005$), whereas a significant increase in VFI was observed in the primary open-angle glaucoma (POAG) group, with a difference of $+1.50\%$ ($p = 0.030$). A significant increase in MD was found in the POAG group, with a difference of $+0.70$ dB ($p = 0.030$). Bivariate and multivariate analysis showed no significant association between sex, age, diagnosis, glaucoma stage, number of antiglaucoma medications, and the time interval between examinations with glaucoma progression among primary glaucoma patients at Dr. Sardjito General Hospital.

Keywords: primary glaucoma, progression, visual acuity, intraocular pressure, retinal nerve fiber layer, visual field index, mean deviation, optical coherence tomography, Humphrey field analyzer.