

ABSTRACT

Relationship between Intraretinal Fluid and Drusen Volume with Macular Atrophy in Neovascular Age-Related Macular Degeneration Treated with Anti-Vascular Endothelial Growth Factor

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Introduction

Spectral-Domain Optical Coherence Tomography (SD-OCT) examination can be performed in cases of Neovascular Age-Related Macular Degeneration (n-AMD) to diagnose macular atrophy, to see the presence of intraretinal fluid, and to measure drusen volume. This study aims to determine the relationship between intraretinal fluid and drusen volume and the incidence of macular atrophy based on SD-OCT findings on n-AMD.

Methods

This was an analytic observational study with a retrospective cohort design. There were 76 eyes that underwent initial SD-OCT and follow-up on n-AMD patients who were injected with intravitreal Bevacizumab at RSUP Dr. Sardjito Yogyakarta period 1 December 2019 to 31 March 2022. Macular atrophy was diagnosed based on the criteria of the 6th Atrophy Meetings Classification.

Results

Based on the follow-up SD-OCT, 51 eyes were in the macular atrophy group and 25 eyes were in the no macular atrophy group. Based on the initial SD-OCT, intraretinal fluid was found in 30 eyes (58.8%) in the macular atrophy group and 10 eyes (40%) in the non-macular atrophy group ($p=0.123$). Drusen volume was found 0.03 mm³ in 45 eyes (93.8%) in the macular atrophy group and 17 eyes (70.8%) in the no macular atrophy group (OR=6.17, 95% CI 1.43-26.28, $p=0.013$).

Conclusion

Drusen volume ≥ 0.03 mm³ on SD-OCT examination increases the risk of macular atrophy in n-AMD patients.

Keywords

n-AMD, Macular atrophy, OCT, Drusen volume, Intraretinal fluid

INTISARI

Hubungan antara Cairan Intraretina dan Volume Drusen dengan Kejadian Atrofi Makula pada Age-Related Macular Degeneration Neovaskular dalam Terapi Anti-Vascular Endothelial Growth Factor

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Latar Belakang

Pemeriksaan *Spectral-Domain Optical Coherence Tomography* (SD-OCT) dapat dilakukan pada kasus *Age-Related Macular Degeneration* Neovascular (n-AMD) untuk menegakkan diagnosis atrofi makula, melihat adanya cairan intraretina dan mengukur volume drusen. Penelitian ini bertujuan untuk mengetahui hubungan antara cairan intraretina dan volume drusen dengan kejadian atrofi makula berdasarkan temuan SD-OCT pada n-AMD.

Metode

Penelitian ini merupakan penelitian observasional analitik dengan desain kohort retrospektif. Diperoleh 76 mata yang dilakukan SD-OCT awal dan *follow-up* pada pasien n-AMD yang diinjeksi Bevacizumab intravitreal di RSUP Dr. Sardjito Yogyakarta periode 1 Desember 2019 sampai 31 Maret 2022. Atrofi makula didiagnosis sesuai kriteria *Classification of Atrophy Meetings* ke-6.

Hasil

Berdasarkan SD-OCT *follow-up*, 51 mata masuk ke dalam kelompok atrofi makula dan 25 mata masuk ke dalam kelompok tidak atrofi makula. Berdasarkan SD-OCT awal, ditemukan cairan intraretina di 30 mata (58.8%) pada kelompok atrofi makula dan 10 mata (40%) pada kelompok tidak atrofi makula ($p=0.123$). Ditemukan volume drusen ≥ 0.03 mm³ di 45 mata (93.8%) pada kelompok atrofi makula dan 17 mata (70.8%) pada kelompok tidak atrofi makula (OR=6.17, 95% CI 1.43-26.28, $p=0.013$).

Kesimpulan

Volume drusen ≥ 0.03 mm³ pada pemeriksaan SD-OCT meningkatkan risiko kejadian atrofi makula pada pasien n-AMD.

Kata Kunci

n-AMD, Atrofi Makula, OCT, Volume drusen, Cairan Intraretina