

# Perubahan Ketebalan dan Densitas Vaskular Makula pada Pasien Ablasio Retina Rhegmatogen pasca Vitrektomi Pars Plana dengan Tamponade Silicone Oil serta Perbedaannya terhadap Mata Kontralateral = Changes in Macular Thickness and Superficial Vascular Density in Rhegmatogenous Retinal Detachment after Pars Plana Vitrectomy with Silicone Oil and comparison to Fellow Eye

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## Abstrak

Latar Belakang: Silicone oil (SO) merupakan salah satu substitusi vitreus yang digunakan pasca vitrektomi pars plana (VPP) dalam manajemen ablasio retina rhegmatogen. Beberapa komplikasi penggunaan SO meliputi katarak, peningkatan tekanan bola mata, emulsifikasi, keratopati hingga menurunnya ketebalan dan densitas vaskular makula. Tujuan: Mengetahui perubahan ketebalan makula sentral serta densitas vaskular pleksus superfisial pada pasien ablasio retina rhegmatogen pasca VPP dengan tamponade SO. Metode: 41 pasien ablasio dianalisis dalam studi ini yang menggunakan dua desain: observasional prospektif tanpa pembandingan untuk membandingkan efek tamponade SO minggu-1 dengan minggu-4 dan potong lintang untuk membandingkan mata kontralateral dengan minggu-1 pasca tamponade SO. Hasil: Central subfield thickness (CST), superficial vascular density (SVD) serta superficial perfusion density (SPD) pada minggu-1 lebih rendah dibandingkan mata kontralateral ( $p < 0,001$ ). Pada minggu-4 pasca tamponade SO ditemukan peningkatan CST, SVD, SPD dibandingkan minggu-1 meskipun tidak signifikan secara statistik. Pada analisis tambahan, didapatkan usia diatas 50 tahun mengalami kecenderungan penurunan SVD ( $p 0,033$ ) dan SPD ( $0,011$ ) dibandingkan kelompok usia muda. Kesimpulan: Tidak didapatkan penurunan ketebalan makula sentral dan densitas vaskular pleksus kapiler superfisial makula di minggu-4 pasca PPV dengan SO. Didapatkan ketebalan makula sentral dan densitas vaskular pleksus kapiler superfisial makula yang lebih rendah di minggu-1 pasca tamponade SO dibandingkan mata kontralateral

.....Background: Silicone oil (SO) is one of the vitreous substitutes used after pars plana vitrectomy (PPV) for rhegmatogenous retinal detachment (RRD) management. Complications arising from SO include cataracts, increased ocular pressure, emulsification, keratopathy, and decreased macular thickness and vascular density. Objective: To determine changes in central macular thickness and superficial vascular density in RRD patients after PPV with SO. Method: 41 patients were included in this study, which comprises two designs: a prospective observational without comparison to compare the effect of SO tamponade week-1 with week-4 and a cross-sectional design to compare the contralateral eye with week-1 after SO tamponade. Results: Central subfield thickness (CST), superficial vascular density (SVD), and superficial perfusion density (SPD) were lower at week 1 after PPV with SO compared to the contralateral eye ( $p < 0.001$ ). At week 4 after PPV with SO, there was an increase in CST, SVD, and SPD compared to week 1, although not statistically significant. In additional analysis, we found that those aged over 50 had tendencies toward decreased SVD ( $p 0.033$ ) and SPD ( $0.011$ ) compared to the younger age group.

Conclusion: There was no reduction in central macular thickness or superficial vascular density at week 4 after PPV with SO in RRD patients. Central macular thickness and superficial vascular density were lower on week 1 after SO tamponade compared to the contralateral eye.