

# Perbandingan Efek Injeksi Intravitreal Bevacizumab dengan dan tanpa Kombinasi Yellow Subthreshold Micropulse Laser (577-nm) terhadap Ketebalan Makula Sentral dan Tajam Penglihatan Pasien Edema Makula Diabetik Derajat Ringan-Sedang = Comparison of Bevacizumab Intravitreal Injection Effects with and without Yellow Subthreshold Micropulse Laser (577-nm) Combination on Central Macular Thickness and Best Corrected Visual Acuity of Mild-Moderate Diabetic Macular Edema Patients

Alia Nessa Utami, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920518575&lokasi=lokal>

---

## Abstrak

**Latar Belakang:** Tata laksana edema makula terus dievaluasi, dengan terapi anti-VEGF sebagai lini pertama. Subthreshold micropulse laser (SML) diajukan sebagai alternatif adjuvan. Studi retrospektif terdahulu menunjukkan efektivitas SML 577-nm sebagai monoterapi pada edema makula dengan ketebalan di bawah 400 m. Akan tetapi, data prospektif efektivitas SML sebagai adjuvan masih minim.

**Tujuan:** Menilai pengaruh pemberian kombinasi bevacizumab dan laser SML 577-nm dibanding bevacizumab monoterapi terhadap ketebalan makula sentral dan tajam penglihatan pasien edema makula diabetik ringan-sedang.

**Metode:** Penelitian ini merupakan studi eksperimental lengan ganda. Dilakukan randomisasi acak terhadap pasien edema makula diabetik dengan rentang ketebalan makula 300-600 m, kelompok kontrol mendapatkan protokol standar. Kelompok studi mendapatkan adjuvan laser SML kuning satu minggu pascainjeksi. Pasien menjalani follow-up penilaian tajam penglihatan dan ketebalan makula sentral pada 28 dan 35 hari pascainjeksi.

**Hasil:** Terdapat 26 subjek yang terbagi rata pada kelompok studi dan kontrol. Ditemukan signifikansi nilai CMT pada kontrol 28 hari dan 35 hari pascainjeksi baik pada kelompok studi ( $p=0,011$  dan  $0,014$ ) maupun kontrol ( $p=0,006$  dan  $p=0,001$ ). Akan tetapi, tidak ditemukan perbedaan signifikansi selisih nilai CMT antara kedua kelompok pada kontrol 28 hari ( $p=0,317$ ) dan 35 hari ( $p=0,84$ ). Tidak ditemukan perbedaan selisih TPKD ETDRS antara kelompok studi dan kontrol pada kelompok 28 hari ( $p=0,568$ ) dan 35 hari ( $p=0,128$ ) pascainjeksi.

**Kesimpulan:** Kombinasi SML dengan bevacizumab intravitreal dapat mengurangi ketebalan makula sentral dan memperbaiki tajam penglihatan namun tidak ditemui perbedaan yang signifikan dengan monoterapi standar.

.....**Background:** The management of macular edema is constantly evaluated, with anti-VEGF therapy being the first line. Subthreshold micropulse laser (SML) has been proposed as an alternative adjuvant. A previous retrospective study demonstrated the effectiveness of 577-nm SML as monotherapy in macular edema with CMT below 400 m. However, prospective data on the effectiveness of SML as an adjuvant are lacking.

**Objective:** To assess the effect of the combination of bevacizumab and 577-nm SML laser compared to bevacizumab monotherapy on central macular thickness and visual acuity in mild-moderate diabetic macular edema patients.

**Methods:** This research is a double arm experimental study. A randomized trial was performed on diabetic

macular edema patients with macular thickness range of 300-600  $\mu$ m. The control group received a standard protocol and the study group received a yellow SML laser adjuvant one week after injection. Patients underwent follow-up assessment of visual acuity and central macular thickness at 28 and 35 days postinjection.

Results: There were 26 subjects which were equally divided into study and control groups. Significant decrease in CMT were found in study group ( $p=0.011$  and  $0.014$ ) and the control group ( $p=0.006$  and  $p=0.001$ ). However, there was no significant difference in delta CMT values between the two groups in the 28-day ( $p=0.317$ ) and 35-day controls ( $p=0.84$ ). There was no difference in TPDF ETDRS between the study and control groups at 28 days ( $p=0.568$ ) and 35 days ( $p=0.128$ ) after injection.

Conclusion: The combination of SML and intravitreal bevacizumab can reduce central macular thickness and improve visual acuity but there was no significant difference with standard monotherapy.