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 = Comparation 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

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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 TPDK 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 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 TPDK 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.