

Perubahan ketebalan makula sentral pasca vitrektomi pars plana dan internal limiting membran peeling pada pasien non proliferative diabetic retinopathy dengan edema makula diabetik refrakter = Central macular thickness changes after pars plana vitrectomy and internal limiting membrane peeling in patients with non proliferative diabetic retinopathy with refractory diabetic macular edema

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## Abstrak

### <b>ABSTRAK</b><br>

Edema makula diabetik (EMD) merupakan salah satu penyebab utama kebutaan pada pasien diabetes. Saat ini terapi utama pada pasien edema makula diabetik adalah injeksi intravitreal anti VEGF. Pada beberapa keadaan, hal ini menjadi kendala karena 50% pasien yang menjalani rangkaian injeksi intravitreal anti VEGF memiliki edema makula yang refrakter. Vitrektomi pars plana dan internal limiting membran (ILM) peeling diharapkan dapat menjadi alternatif terapi pada EMD refrakter. Penelitian ini bertujuan menilai hasil terapi tindakan vitrektomi dan ILM peeling pada pasien non proliferative diabetic retiopathy (NPDR) dengan EMD refrakter. Penelitian ini merupakan penelitian uji klinis dengan intervensi single arm. Subjek dengan NPDR dan EMD refrakter menjalani tindakan vitrektomi dan ILM peeling. Nilai ketebalan makula sentral (CMT) dan tajam penglihatan diukur sebelum, 1 bulan, 2 bulan, dan 3 bulan sesudah tindakan.

Komplikasi pasca tindakan juga dinilai pada setiap kunjungan yang direncanakan. Rentang usia 62,5 (39-72) tahun, lama menderita diabetes 10 (3-18) tahun, kadar HbA1C 6,4 (5,5 -10,8)%. Nilai CMT sebelum, 1 bulan, 2 bulan dan 3 bulan sesudah tindakan adalah [492,0 (303-895) : 277,5 (97-809) : 264 (147-608) : 264,0 (142-660)  $\mu$ m] ( $p=<0,001$ ). Tajam penglihatan terbaik adalah [1,02 (0,60-1,30) : 1,04 (0,60-1,70) : 1,06 (0,52-2,00) : 1,04 (0,52-2,00) LogMAR] ( $p=0,635$ ). Terdapat komplikasi pasca tindakan pada pengamatan bulan kedua meliputi retinal detachment dan macular hole. Pada penelitian ini, tindakan vitrektomi dan ILM peeling pada pasien NPDR dengan EMD refrakter memberikan perubahan CMT yang bermakna. Tidak terdapat perubahan yang bermakna secara statistik pada nilai tajam penglihatan namun mayoritas subjek menunjukkan stabilitas tajam penglihatan.

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### <b>ABSTRACT</b><br>

Diabetic macular edema (DME) is one of the leading causes of blindness in diabetic patients. The main therapy of DME, up until now is intravitreal injection of anti-vascular endothelial growth factor (VEGF). In certain situation, medical dilemma appeared as in such circumstances 50% patients that underwent series of intravitreal injection of anti VEGF experienced the refractory DME. Pars plana vitrectomy and internal limiting membrane (ILM) peeling is expected to be an alternative treatment in refractory DME. The aim of this study was to assess the result of vitrectomy and ILM peeling in patients with non-proliferative diabetic retinopathy (NPDR) with refractory DME. This study was a clinical trial with single arm intervention. The patients with NPDR with DME underwent vitrectomy and ILM peeling surgery. The assessment of the central macular thickness (CMT) and the visual acuity was conducted before the treatment and 1 month, 2 months and 3 months after. The complication after the treatment was assessed in each scheduled visit. The

average age was 62.5 years old with range of 39-72 years old, the history duration of diabetes mellitus was 10 years (3-18) years, level of HbA1C was 6.4 (5.5-10.8)%. The CMT before treatment, 1 month, 2 months and 3 months after treatment were [492,0 (303-895) : 277,5 (97-809) : 264 (147-608) : 264,0 (142-660)  $\mu$ m] ( $p=<0,001$ ). The best corrected visual acuity was [1,02 (0,60-1,30) : 1,04 (0,60-1,70) : 1,06 (0,52-2,00) : 1,04 (0,52-2,00) LogMAR] ( $p=0,635$ ). The recorded complication after the treatment was retinal detachment and macular hole. These complications were found on the 2nd month. This study concluded that there was a significant CMT changes in patients with NPDR and refractory DME who underwent vitrectomy and ILM peeling. There was no statistically significant changes in the visual acuity yet majority of the subjects showed a stable visual acuity after the treatment.