ABSTRACT

COMPARISON EFFECTIVENESS OF PHOTOCOAGULATION LASER MONOTHERAPY WITH COMBINATION THERAPY AFLIBERCEPT AND PHOTOCOAGULATION LASER

(Clinical Experimental Research on Nonproliferative Diabetic Retinopathy with Diabetic Macular Edema at Dr. Soetomo Hospital Surabaya)

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Objective : To compare the effectiveness of photocoagulation laser monotherapy with combination therapy of photocoagulation laser and intravitreal aflibercept injection in patients NPDR with DME.

Methods: This was experimental study with pre-test and post-test control group design. The subjects included were new NPDR with DME patient who admitted to retinal division outpatient clinic. They were divided into two groups. The treatment group administered intravitreal aflibercept injection with photocoagulation laser, and the other group administered photocoagulation laser only. The patients were examined visual acuity, anterior segment, IOP, and OCT for three consecutive times(before and during therapy). Mann-Whitney test, independent sample t-test, Fisher's Exact test and Friedman test were used for statistical analysis.

Result: Eighteen eyes from fourteen patients were enrolled the study. Statistical analysis of this study showed that in combination therapy group, there was a significant decrease in central subfield thickness at 2 weeks and 4 weeks post-therapy(p=0,000), and significant increase in BCVA at 2 weeks and 4 weeks(p=0,000) post-therapy. In the monotherapy group there was a significant increase of central subfield thickness at 2 weeks and 4 weeks post-therapy(p=0.001), and no significant BCVA change at 2 weeks and 4 weeks post-therapy(p=0.223). There was a significant difference in the change of central subfield thickness anda BCVA between the two treatment groups at 2 weeks(p=0,000) and 4 weeks(p=0,000) post-therapy.

Conclusion: intravitreal aflibercept injections as adjuvant therapy for laser photocoagulation in NPDR with DME patient may accelerate the improvement of macular edema and increased BCVA.

Keywords: NPDR, DME, Photocoagulation laser, VEGF, Aflibercept