

Supplementary information for

Intraocular pressure fluctuation and neurodegeneration in diabetic rat retina

Kyoung In Jung, M.D., Ph.D., Jung Eun Woo, Chan Kee Park, M.D., Ph.D

Chan Kee Park: ckpark@catholic.ac.kr

This PDF files includes

Supplementary figure S1 to S5

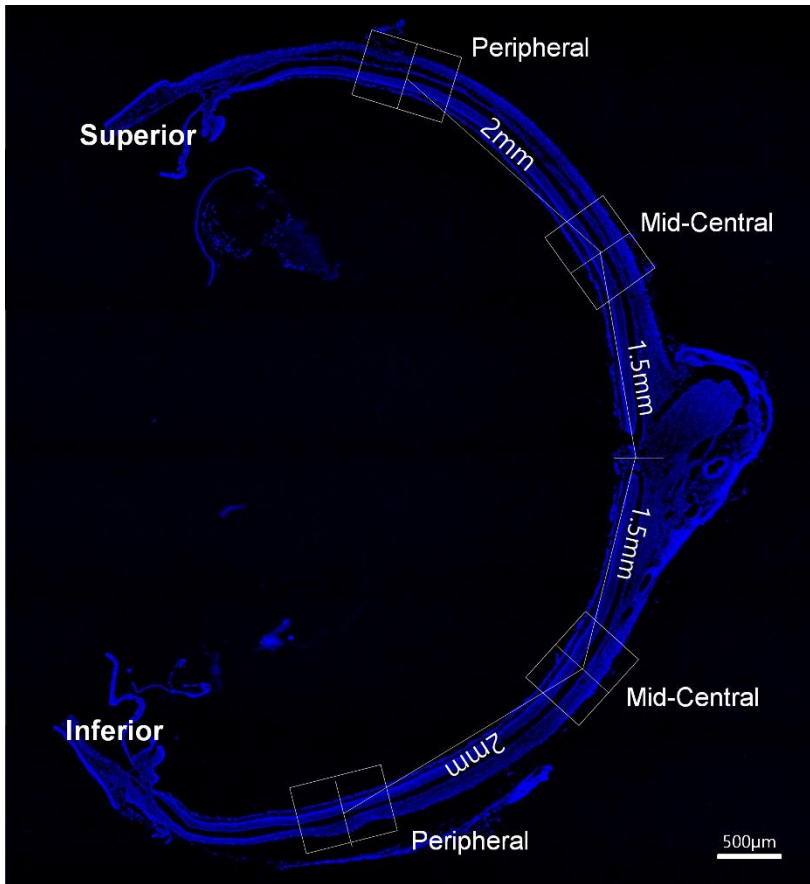


Fig. S1. Representative posterior eyecup image stained with DAPI for analysis. Each eyecup was divided into 2 mid central (1.5 mm from the optic nerve), 2 peripheral areas (3.5mm from the optic nerve) for image analysis.

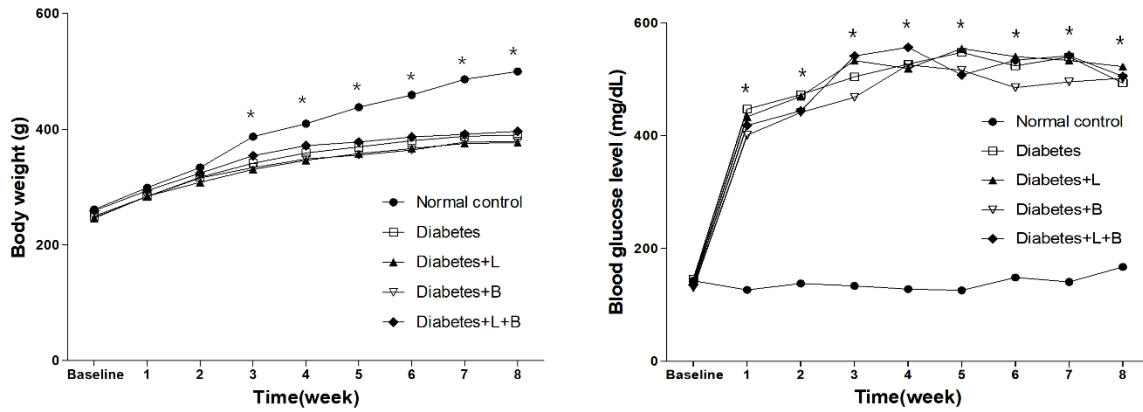


Fig.S2 Body weight and blood glucose level in the control and diabetic rats. Body weight was lighter in the streptozotocin injected group than the normal control group ($P < 0.001$) at 3 weeks after streptozotocin injection. Serum glucose was elevated in the diabetes group compared with that in the normal control group, except at the baseline, at 8 weeks after streptozotocin injection (all $P < 0.001$) ($n = 10$ per group).

* $P < 0.05$ by using Kruskal-Wallis and post hoc Dunn's test (one-tailed)

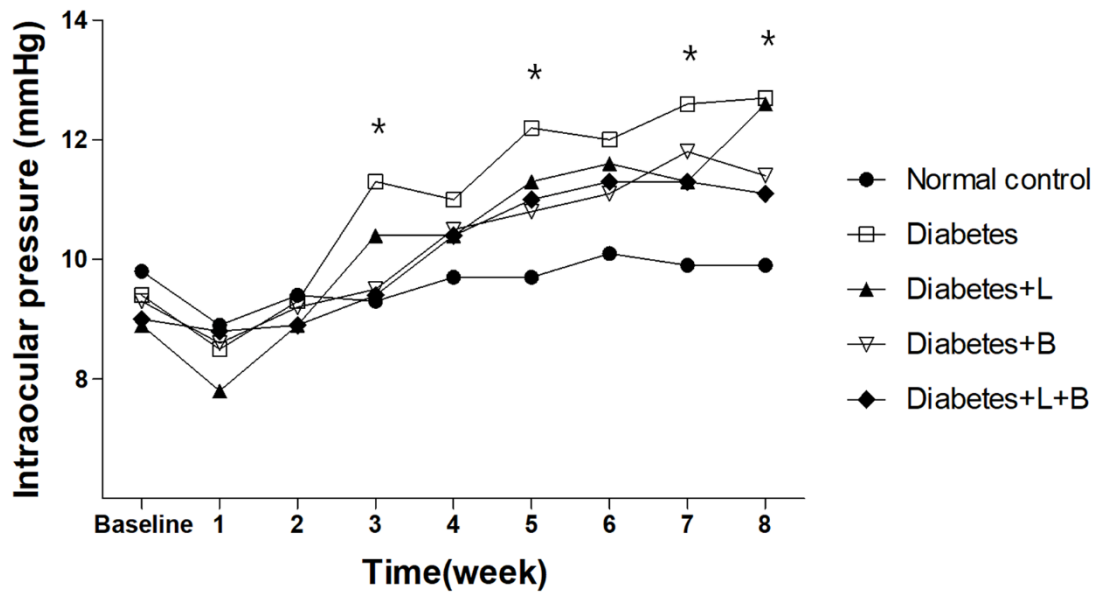


Fig.S3 Serial change in intraocular pressure (IOP). The diabetes group (n=10) showed higher IOP than did the normal control group (n=10) at 3, 5, 7, and 8 weeks after Streptozotocin (STZ) injection. The combined treatment group (latanoprost and brinzolamide) (n=10) or the brinzolamide group (n=10) displayed lower IOP than did the diabetes group treated with saline at 3, 5, and 7 weeks after STZ injection. The combined treatment group showed lower IOP than did the diabetes group treated with saline also at 8 weeks after STZ injection.

* P < 0.05 by using Kruskal-Wallis and post hoc Dunn's test (one-tailed)

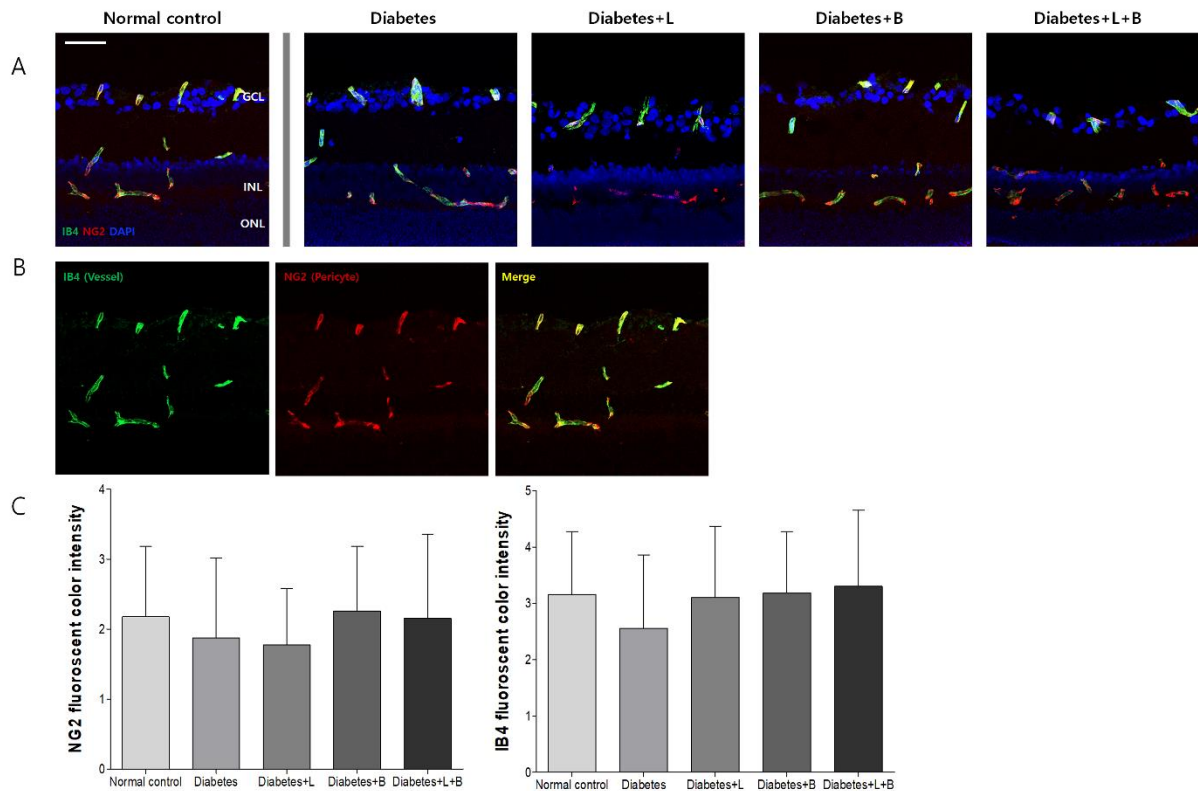


Fig.S4 Immunofluorescence staining for pericyte and microvessel in retina. A. immunofluorescence staining of anti-NG2 antibody to measure pericyte and anti-GSL-IB4 antibody to evaluate microvessel was observed in the ganglion cell layer, inner plexiform layer, and inner nuclear layer. B. Expression of anti-NG2 antibody merged well with anti-GSL-IB4 antibody. C. There was no significant difference in the degree of anti-NG2 antibody or with anti-GSL-IB4 antibody staining among the groups ($P=0.625$ for anti-NG2 antibody, $P=0.514$ for anti-GSL-IB4 antibody) ($n=10$ per group).

* $P < 0.05$ by using Kruskal-Wallis and post hoc Dunn's test (one-tailed)

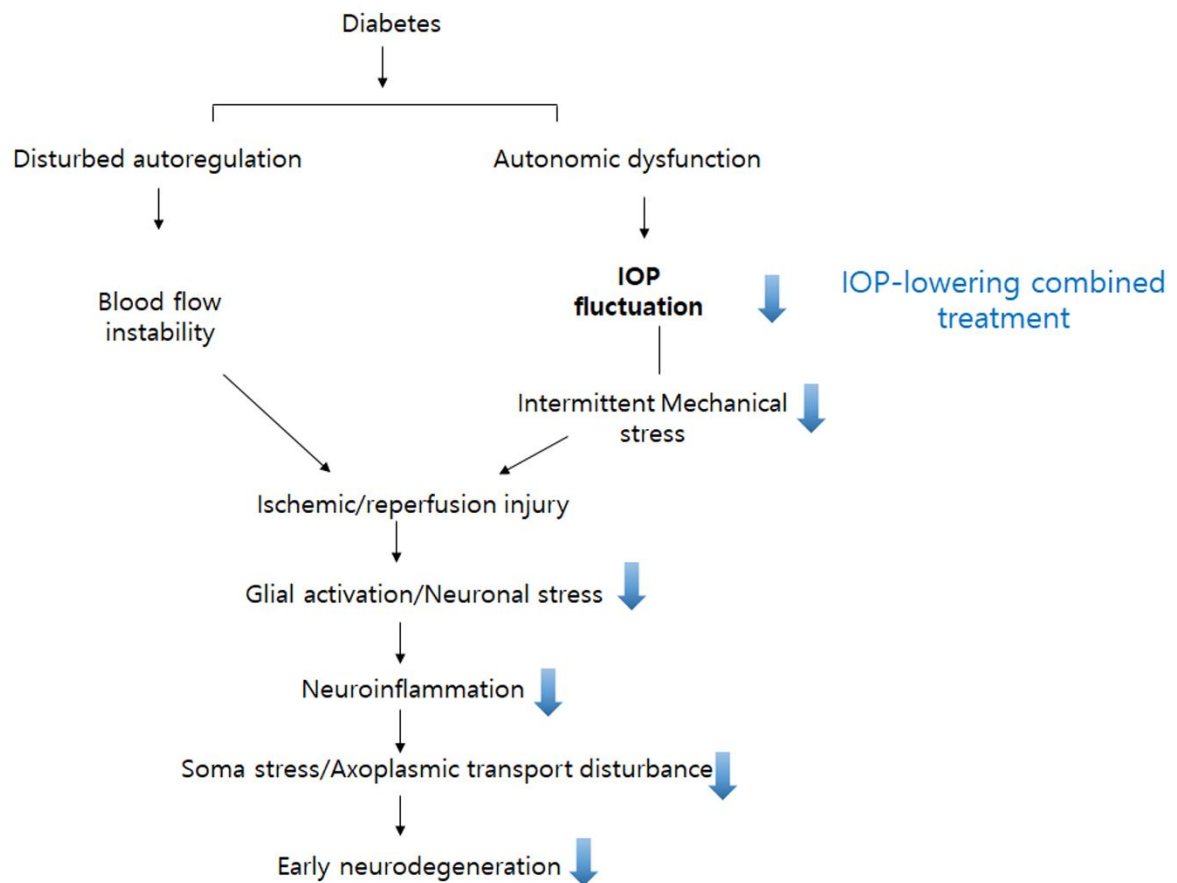


Fig.S5 Hypothetical overview of the relationship between fluctuation of intraocular pressure and neurodegeneration in diabetic retina

IOP, intraocular pressure