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SUMMARY

The effect of intravitreal triamcinolone acetonid on retinal expression of vascular endothelial growth factor in diabetic rats

Purpose: In this study we investigated the effect of intravitreal triamcinolone acetonide (IVTA) in streptozotocin-induced diabetic rats on vascular endothelial growth factor (VEGF) expression in the retina.

Materials and Methods: Male wistar rats were included in the study. Diabetes was induced by intraperitoneal single injection of streptozotocin (50 mg/kg). Diabetes was confirmed by measuring blood glucose level using blood samples obtained from the tail vein on the third and seventh days. The rats included in the study if the blood glucose level was higher than 250 mg/dl.

Fifteen days after the injection of streptozotocin, a single dose of triamcinolone acetonide (320 µg/ 8 µl) was injected into the vitreous by using a Hamilton micro-injector (30 gauge) and an equal volume of balanced salt solution into the fellow eyes. Rats were sacrificed four weeks after the injection of streptozotocin, and the eyes were enucleated. The retina specimens obtained from the enucleated eyes were examined with using anti-VEGF markers by immunohistochemistry.

Results: Decreased VEGF expressions were found in retinal layers of rats which were injected TA compared with the control eyes. However, no statistically significant difference was found between TA injected and control eyes.

Conclusion: In this study, these findings shows that intravitreal triamcinolone acetat administration could not change VEGF expression in diabetic rats. These results suggest that IVTA does not cause any changes in VEGF release in diabetic rats and (probably) may not inhibit angiogenesis.

Key Words: Streptozotocin, diabetic rat, vascular endothelial growth factor, intravitreal triamcinolone acetonid