Steroid injections may slow diabetes-related eye disease

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Injecting the corticosteroid triamcinolone into the eye may slow the progression of diabetic retinopathy, a complication of diabetes that can cause vision loss and blindness, according to a report in the December issue of *Archives of Ophthalmology*.

Proliferative diabetic retinopathy occurs when new blood vessels form on the optic disc or another component of the retina, according to background information in the article. Despite advances in treating both diabetes and its complications, about 700,000 Americans have proliferative diabetic retinopathy and 63,000 new cases develop each year. Controlling blood glucose levels can help prevent the development of retinopathy and laser treatments can reduce the risk of vision loss, but the identification of other treatments remains desirable.

Neil M. Bressler, M.D., of Johns Hopkins University School of Medicine, Baltimore, and colleagues in the Diabetic Retinopathy Clinical Research Network conducted a study involving 840 eyes of 693 participants who had macular edema, a leakage of fluid into part of the retina that occurs in many cases of retinopathy. Eyes were randomly assigned to receive one of three treatments: photocoagulation (a laser treatment that destroys blood vessels) or a 1-milligram or 4-milligram injection of triamcinolone acetonide directly into the eye as often as every four months.

After two years, retinopathy had progressed in 31 percent of 330 eyes treated with photocoagulation, 29 percent of 256 eyes treated with

1-milligram doses of triamcinolone acetonide and 21 percent of 254 eyes treated with 4-milligram doses. These differences appeared to be sustained at three years, even though most eyes in the triamcinolone groups did not receive injections every four months during the second year and less than half received any injections in the third year.

Corticosteroids have been shown to interfere with the creation of new blood vessels, possibly by reducing the production of compounds that spur their growth, the authors note. However, steroids are also associated with other eye diseases.

"Use of this intravitreal [injected into the eye] corticosteroid preparation to reduce the likelihood of progression of retinopathy is not warranted at this time because of the increased risk of glaucoma and cataract associated with intravitreal steroid use," the authors write. "Any treatment to be used routinely to prevent proliferative diabetic retinopathy likely needs to be relatively safe because the condition already can be treated successfully and safely with panretinal photocoagulation. Nevertheless, further investigation with regard to the role of pharmacotherapy for reduction of the incidence of progression of retinopathy appears to be warranted."

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