ERDEY EYE GROUP
Vision For Life

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The Best VisioNewsletter

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Blood Pressure Control Reduces Development of Diabetic Eye Disease

Recent evidence reinforces that tight blood pressure (BP) control significantly reduces the progression of retinopathy and vision loss in type II diabetes mellitus. The UK Prospective Diabetes Study Group (UKPDS) (Arch Ophth, 2004; 122:1631-1640), involved nineteen hospital-based clinics in England, Scotland, and Northern Ireland, and studied over one thousand type II diabetics. Mean disease duration was 2.6 years at inception of the study, with a mean BP of 160/94 mm Hg. 758 were allocated to tight BP control with ACE inhibitor or B-blocker as main therapy; 390 were treated with a less tight BP control policy. Vision was assessed at 3-year intervals, and patients were monitored for retinal deterioration including specific lesions (micro-aneurysms, hard exudates, cotton-wool spots) or endpoints (retinal laser, vitreous hemorrhage).

The tight BP control groups developed significantly less retinopathy and enjoyed better vision than the control group. Specifically, the tight BP group demonstrated less microaneurysms at 4.5 years (23.3% versus 33.5%), and this effect continued to 7.5 years; less development of both hard exudates and cotton-wool spots (each increased at 7.5 years, though less so in the tight BP control group); better visual function; less proliferative retinopathy; and less blindness. There was no significant difference in outcome between the two randomized therapies of ACE inhibitor and B-blocker. Of note, the UKPDS groups have previously reported that reducing systolic BP by 10 mm Hg and diastolic BP by 5 mm Hg resulted in 37% less microvascular disease (proliferative retinopathy, vitreous hemorrhage, retinal disease) (BMJ, 1998;317:713-720).

The UKPDS reports reinforce the importance of blood pressure control for diabetic patients. This relationship is particularly relevant given the high prevalence of hypertension for type II diabetes (32% of type II diabetics at age 40 years, 47% at age 60 years). Whereas high BP normally results in autoregulatory vasoconstriction, poorly controlled diabetes and retinopathy both result in increased retinal blood flow. BP and blood glucose control are thus necessary to normalize the autoregulation of retinal blood vessels, thereby reducing sheer stress that can damage vessel walls and worsen retinopathy. Annual diabetic eye screening is essential.

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We dedicate ourselves to enhancing the quality of life for every individual whose life we touch, by helping each to see his or her best, and by preserving our patients' vision and eye health throughout life.

May All Your Holiday Visions Come True!

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