Blood pressure, glaucoma links in migraine patients; eye care goes digital and mobile

EurekAlert

CHICAGO?Data on glaucoma risk in people with migraine and on innovative uses of mobile, digital technology are featured in today's Scientific Program, to be presented at the 2010 American Academy of Ophthalmology (AAO) Middle East-Africa Council of Ophthalmology (MEACO) Joint Meeting. The AAO-MEACO meeting is in session October 16 through 19 at McCormick Place, Chicago. It is the largest, most comprehensive ophthalmic education conference in the world.

The Blood Pressure-Glaucoma Connection in People with Migraine

Yury S Astakhov, MD, PhD, of Pavlov Medical University, St. Petersburg, Russian Federation, studied how day- and at night-time blood pressure levels may be related to the development of glaucoma in people with migraine. Understanding such effects is important for doctors in determining how to treat patients with multiple diseases.
Migraine is a known risk factor for open-angle glaucoma, a disease that can cause blindness due to damage to the optic nerve. The association between the two is stronger for people with "normal tension" glaucoma (NTG), in which the pressure within the eye is normal but optic nerve damage occurs nonetheless. It is also known that glaucoma patients who have low blood pressure at night are more likely to develop visual field loss (reduction of the full range of vision, which occurs first in the peripheral vision).

Dr. Astakhov's team compared day- and night-time systolic and diastolic blood pressures in 12 patients who had migraine and glaucoma (8 with NTG) against 16 patients with migraine but no glaucoma. The only significant difference between the groups was in night time diastolic pressure: migraine patients with glaucoma had excessive decreasesmore than 20 percentin their diastolic pressure levels.

"We conclude that low diastolic blood pressure at night is a possible risk factor for glaucoma in patients with migraine," Dr. Astakhov said.

iPhone Images: Good Enough for Medical Use?

Like the rest of society, medicine increasingly relies on digital systems and mobile devices to manage work flow and enhance communications. Eye M.D.s (ophthalmologists) routinely evaluate internet-transmitted images of patients' eyes as part of diagnosis and treatment. Usually images are viewed at computer workstations with standard display screens. University of Pittsburg School of Medicine researchers wondered whether handheld devices like the iPhone would work equally well.
In the study, Eye M.D.s from the University of Pittsburg Eye Center evaluated three

aspects of diabetic retinopathy, a potentially blinding disease that affects many people with diabetes, by reviewing both the standard computer monitor and iPhone images for 55 patients (110 eyes). The doctors then made recommendations for follow up treatment.

"We found high consistencymore than 85 percent agreementbetween evaluations based on the standard computer monitor and on the iPhone for all image sections tested," said Dr. Michael J. Pokabla. "There were no significant differences between evaluations and recommendations using the two systems, and the doctors rated the iPhone images as excellent. We conclude that mobile devices like the iPhone can be used to evaluate ophthalmic images," he added.

No Eye M.D. in the House? Videoconferencing Brings the Expert to the Outback
When no ophthalmologist is available on site, some emergency rooms (ERs) in remote medical centers in rural Australia now use videoconferencing to receive diagnosis and treatment advice for their eye injury and ophthalmic illness patients.

A telecommunication link at a major metropolitan teaching eye hospital, the Royal Victorian Eye and Ear Hospital (RVEEH), is connected with four ERs that serve large regions of rural Australia. Dr. Christolyn Raj and her team studied the effectiveness of this approach by reviewing the initial six months of RVEEH videoconference interactions with the regional ERs.

Diagnoses were altered in approximately 60 percent of cases and management plans were changed in about 70 percent of cases following videoconference consultations, study results show. The average consultation time was 10 minutes.

"Videoconferencing is a sustainable, effective way of providing prompt eye management advice to rural emergency doctors," Dr. Raj said. "Although it can never replace face to face clinical care, it is a useful tool to have at one's fingertips and its use will undoubtedly increase in coming years," she added.

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