Clinical Digest

DIABETES MANAGEMENT

Surprising Findings on Diabetic Neuropathy

Autonomic symptoms and deficits are known to be prevalent in patients with diabetes mellitus, but a comprehensive autonomic symptom profile has yet to be established. With this in mind, investigators from the Mayo Clinic analyzed data on 231 patients from the Rochester Diabetic Neuropathy Study. They concluded that autonomic symptoms are common, but generally mild, in both types 1 and 2 diabetes. Such symptoms, however, do not correlate well with autonomic deficits—which highlights the importance of evaluating symptoms and deficits separately.

The following autonomic symptoms were assessed: orthostatic intolerance; syncope; erectile, bladder, secretomotor, and sleep dysfunction; diarrhea; constipation; and upper gastrointestinal, vasomotor, and pupillomotor problems. Of the patients with type 1 diabetes, 54% had autonomic neuropathy, versus 73% of the patients with type 2—a significant difference. Only 14% of patients had moderate to severe, generalized, autonomic failure.

Patients with type 2 diabetes were more likely to have diarrhea and urinary symptoms, as well as higher cardiovagal scores.

Source: *Diabetes Care*. 2004;27:2942–2947.

CARDIOLOGY

Can You Trust At-Home BP Readings?

According to the American Heart Association (AHA), at-home blood pressure (BP) readings are a useful addition to BP management and may even predict cardiovascular disease risk better than readings taken in the physician's office. "Blood pressure measurements taken by doctors in their offices may actually be unreliable in many patients," says Thomas G. Pickering, MD, lead author of the AHA's updated Recommendations for Blood Pressure Measurement in Humans and director of the Behavioral Cardiovascular Health and Hypertension Program at Columbia University Medical Center in New York, NY. If there is a discrepancy between an office reading and an out-of-office reading, Pickering advises going with the out-of-office one.

Ambulatory monitoring, for example, can capture nocturnal hypertension more accurately. The AHA cautions that BP that does not dip at night is associated with higher cardiovascular risk.

Source: AHA News Release. December 20, 2004.

NEUROLOGY

Considering Surgery After Hemispheric Stroke

After complete middle cerebral artery infarction, physicians are faced with a dilemma: Which patients will do better with decompressive craniectomy and which can be treated through medical measures alone? Researchers from the Mayo Clinic studied 24 patients admitted to the neurointensive care unit because of clinical deterioration to drowsiness or stupor and midline shift.

They compared the 10 patients who improved with medical treatment alone to the 14 who experienced further deterioration and either had hemicraniectomy (11 patients) or declined through proxy (three patients).

Progressive deterioration was associated with female gender and evidence on computed tomography (CT) of additional vascular territorial infarction. The researchers note that a previous study suggested a similar female predisposition to brain swelling and attributed it to gonadal hormonal status. More studies, however, are needed to confirm these observations.

Because deterioration often occurs within 36 hours of the initial event, they suggest it might be worthwhile to perform CT scans at shorter intervals (every six to 12 hours) for the first two or three days after stroke.

Source: *Neurology*. 2004;63: 2142–2145.

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PRIMARY CARE

Vitamin E: Risky at Higher Doses

High dose vitamin E is often assumed to be innocuous, but actually, it may increase all-cause mortality, say researchers from The Johns Hopkins Medical Institutions, Baltimore, MD; Instituto de Salud Carlos III, Madrid, Spain; University of Edinburgh, Edinburgh, Scotland; and University of Tromsø, Tromsø, Norway.

Investigators examined data from 135,967 participants in 19 clinical trials: nine that tested vitamin E alone and 10 that compared it with other vitamins or minerals. Dosages of vitamin E ranged from 16.5 to 2,000 IU/day (median, 400 IU/day).

Of 11 trials testing high dose vitamin E (400 IU/day or more), nine showed higher risk of all-cause mortality among subjects taking vitamin E than among subjects in control groups. The pooled all-cause mortality risk difference in these trials was 39 per 10,000 people. For low dose vitamin E, the risk difference was –16 per 10,000 people. Dose-response analysis showed a statistically significant relationship between vitamin E dosage and all-cause mortality, with risk beginning to rise at dosages greater than 150 IU/day. This dosage is substantially lower than the tolerable upper intake level for vitamin E, which is currently set at the equivalent of 1,100 IU/day for synthetic and 1,500 IU/day for natural vitamin E.

While vitamin E is considered relatively safe compared with other fat-soluble vitamins, the researchers note that previous studies have shown mega dose vitamin E to be associated with pro-oxidant effects, anticoagulant properties, elevated risk of hemorrhagic stroke, and—when used irregularly—withdrawal symptoms. Although they acknowledge that results from some trials suggest a nonsignificant mortality benefit with low dose vitamin E, they say such findings should be interpreted cautiously. Many of the studies were conducted in malnourished populations and, often, vitamin E was combined with other vitamins and minerals.

Investigators point out that their analysis is limited by the fact that many of the high dose trials were conducted using subjects with chronic diseases. Their findings, therefore, may not be generalizable to healthy people.

The cumulative evidence of vitamin E's risks may upset many. Patients with cardiovascular disease and cancer, for instance, take vitamin E supplements. Vitamin E also has been recommended to delay the progression of Alzheimer disease. Based on their findings, however, these researchers advise discouraging use of any high dose vitamin supplement until "appropriately designed" clinical trials provide evidence of efficacy.

Source: *Ann Intern Med.* 2005;142:37–46.

GERONTOLOGY

Can Sensory Problems Predict Cognitive Decline?

Visual and hearing losses are well known to affect elders disproportionately and to contribute to such maladies as falls, fractures, and depression. But, now, results of a study conducted by researchers from the University of Chicago, Chicago, IL; University of California, Los Angeles; and University of Minnesota, Minneapolis suggest that vision and hearing impairment can predict cognitive as well as functional decline.

Researchers examined longitudinal data from the Study of Osteoporotic Fractures, a multicenter study whose participants were elderly women. At baseline, 303 (18%) of the 1,668 patients with available vision data had visual impairment and 1,065 (20%) of the 5,345 patients with available hearing data had hearing impairment.

Over an average of 4.4 years between baseline assessment and follow-up, women with poor vision were twice as likely to show cognitive and functional decline as were those with good vision. There was a nonsignificant trend toward cognitive decline among subjects with hearing impairment at baseline. Combined impairment was associated with the highest odds of cognitive and functional decline, though the researchers say the confidence intervals for these odds ratios overlapped somewhat with those for visual impairment alone.

Few prior studies have examined the effects of multiple sensory impairments, the researchers say, and none has explicitly studied hearing and vision predictors together. They cite studies estimating that, together, uncorrected refractive error and unoperated age-related cataract account for more than half of all visual impairment in older people, and up to 70% of hearing impairment in elders is not treated with hearing aids. Given the potential risk of cognitive decline, it's critical for health care providers to screen and treat elders for visual and hearing problems. ●

Source: *J Am Geriatr Soc.* 2004;52:1996–2002.