Use of Quantitative EEG Can Individualize Therapy

BY KATE JOHNSON
Montreal Bureau

MONTREAL — Psychiatrists can further the quest toward more evidence-based medicine by treating the neurophysiologic origins of behavioral disorders, David Cantor, Ph.D., said at the annual conference of the EEG and Clinical Neuroscience Society.

With the use of quantitative electroencephalography (QEEG) to identify specific abnormalities in brain function, psychiatric therapy can be individualized to address subtleties that may not correlate well with the Diagnostic and Statistical Manual, said Dr. Cantor of Duluth, Ga., who is president of the society.

"Many roads lead to Rome, and there are many different types of abnormal brain physiology that can result in what we call attention-deficit disorder, depression, or any of the other psychiatric disorders," he said in an interview.

"We need evidence of abnormal brain function in order to show there's a physiologic need for a drug or therapy, and then we need information about the specific nature of the abnormality to help us select" a drug or therapy, Dr. Cantor said.

Using attention-deficit/hyperactivity disorder (ADHD) as an example, he said that most current diagnostic and pharmacotherapeutic approaches fail to distinguish between subtle variations.

"Whether a patient has ADD or strictly a hyperactive impulsive problem, or whether they have a combination of both, all of these subtypes get prescribed Ritalin at first pass. It doesn't take a rocket scientist to realize there's something very wrong there. There are subtle differences between these types of people, and there is a different set of abnormal brain physiology features that's contributing to slightly different aspects of their functioning," he said.

Dr. Cantor said that a growing cross section of psychiatry, psychology, neurology, and other mental health clinicians is placing much more emphasis on the concept of "brain screening" with QEEG to aid diagnosis and therapy decisions. The paradigm shift, however, seems to be occurring faster in countries outside of North America.

"At least in this country, psychiatrists seem largely to have not gotten the word. They're still relying on just tying symptoms to drugs and calling it a day. But there are thousands of clinicians worldwide who are using this already and have been using it for a number of years. A whole commercial industry is being launched that says if you want to be precise about what you're prescribing, you may need to look at the brain first," he said.

Dr. Cantor disclosed his partnership with BrainDx LLC, which provides QEEG analytic services for health practitioners worldwide. The company is not yet actively selling or distributing its software. ■

Risk of Cognitive Impairment Higher in Hypertensive Elderly

BY MARY ANN MOON
Contributing Writer

Hypertension increases the risk for nonamnestic mild cognitive impairment in the elderly, researchers at Columbia University, New York, have reported.

This finding suggests that preventing and treating hypertension "may have an important impact in lowering the risk of cognitive impairment," the researchers said in the December 2007 issue of the Archives of Neurology. Previously, data linking hypertension to cognitive impairment and dementia had been inconclusive.

Dr. Christiane Reitz of the university's Gertrude H. Sergievsky Center and her associates assessed the development of mild cognitive impairment (MCI) in a longitudinal cohort study of 918 Medicare recipients 65 years or older living in northern Manhattan in New York.

The subjects underwent general medical examinations, neurologic assessments, and detailed neuropsychological evaluations at 18-month intervals, beginning in 1992-1994. The mean age was 76 years, and the cohort included large numbers of white, African American, and Hispanic subjects.

About 63% of the study subjects had hypertension at baseline. After a mean of 5 years of follow-up, 334 cases of incident MCI developed. A total of 160 were classified as amnestic and 174 as nonamnestic.

Hypertension was associated with an increased risk of all-cause MCI, which was found to be attributable almost entirely to nonamnestic MCI. No association was found between hypertension and amnestic MCI, nor between hypertension and a decline over time in memory or language abilities, the investigators said (Arch. Neurol. 2007;64:1734-40).

The link between hypertension and nonamnestic MCI remained robust after the data were adjusted to account for subject age, sex, years of education, ethnicity, and vascular risk factors such as diabetes, cholesterol level, smoking status, and the presence of heart disease.

The association also remained unchanged after the data were adjusted for use of antihypertensive medication and apolipoprotein-E genotype, Dr. Reitz and her associates said.

Their findings suggest that hypertension affects executive function rather than memory, though the mechanism of action remains unclear. Hypertension may cause cognitive impairment by inducing cerebrovascular disease, or it may contribute to a blood-brain barrier dysfunction.

Given these findings, "preventing and treating hypertension may have an important impact in lowering the risk of cognitive impairment," they said. ■