Handling of Anger and Ischemic Stroke in Women

Adler reports that difficulties in the handling of anger occurred significantly more often in women with ischemic stroke. This finding is supported by the stronger relationship of hostility traits with myocardial ischemia in women. The neurobiology is suggested by studies linking disruption of brain stem cardiovascular control, cardiovascular reactivity in challenging tasks, vasospasm, and disordered mood and affect to dopamine abnormalities laterally to the right hemisphere, in which the metabolic rate is higher in women. These findings prompt the assessment of dopaminergic neurotransmission in interventions designed to modify response to personally relevant, emotionally arousing situations leading to ischemia.

Ernest H. Friedman, MD
Departments of Medicine and Psychiatry
Case Western Reserve University
School of Medicine

References

Apolipoprotein E Polymorphism and Ischemic Cerebrovascular Disease

We have read a letter to the editor and response that appeared recently in Stroke concerning apolipoprotein E genetic polymorphism in patients with ischemic cerebrovascular disease (ICVD) and Alzheimer’s disease. The allele frequencies given by Saunders and Roses question our conclusion that the apo E4 allele probably could be a predisposing genetic marker for ICVD. In this respect, we have calculated the allele frequencies by the gene counting method and compared the groups by the x² contingency test. Allele frequencies in control group were as follows: apo E2, 0.075; apo E3, 0.820; and apo E4, 0.105. These frequencies were significantly different from those in the ICVD patient group of 0.082, 0.720, and 0.198, respectively (P<.05). Therefore, we propose that a high apo E4 allele frequency in patients with ICVD, as has also been described in patients with coronary heart disease, could be a genetic marker for atherosclerosis.

Juan Pedro-Botet, MD
Mariano Sentf, MD
Juan Rubies-Prat, MD

References

Controversies in Stroke: Past and Present

Publication of the 1993 Willis Lecture by Dr M. Dyken acknowledges his important contributions to the treatment of stroke as well as his observations during a distinguished 40-year career in academic medicine. Although we have benefited from his insightful analyses, we were concerned about his review of the trial on efficacy of carotid endarterectomy in asymptomatic carotid stenosis conducted within the Veterans Administration. This was the first prospective and randomized clinical trial to demonstrate a reduction in ipsilateral neurological events in adult male patients with asymptomatic high-grade carotid stenosis treated by carotid endarterectomy. Transient ischemic attack (TIA) and nondisabling stroke were considered part of a clinical continuum. In this trial, efficacy was defined in terms of preventing initial neurological events, and a significant reduction was documented. One half of all neurological events were strokes that were not accompanied by an antecedent or warning TIA. Furthermore, the 2:1 trend toward reduction in stroke alone for patients in the surgical group was not mentioned. Consequently, the current implied clinical recommendation of waiting for occurrence of TIA before intervening surgically may not constitute an optimal program of management for a substantial number of patients.

One of the entry criteria for patients in this trial was the presence of a high-grade stenosis (arteriographic diameter reduction of 50% or a calculated area reduction of 75%). However, the degree of stenosis may be only one of several factors that determine the incidence of stroke. Indeed, only about one fifth of the patients in the medical group experienced neurological events. The current clinical challenge is to identify factors such as ultrasonic plaque morphology, incidence of silent cerebral infarction confirmed by computed tomography, status of collateral cerebral circulation, and combinations of clinical risk factors (such as hypertension, coronary artery disease, smoking, and peripheral vascular disease), which when superimposed on a high-grade threshold stenosis will then result in an increased risk of stroke as a first event.

Our goal is to be selective in the identification of patients who undoubtedly benefit from carotid endarterectomy. Because many of us are participants in the ACAS trial, we support its clinical
follow-up. However, for those patients unwilling or unable to participate, carotid endarterectomy offers important advantages in selected individuals whose surgeons have demonstrated low complication rates.

Robert W. Hobson II, MD
VA Cooperative Trial on Asymptomatic Carotid Stenosis
Newark, NJ

David G. Weiss, PhD
VA Cooperative Studies Program
Perry Point, Md
For the Participating Investigators of the VA Cooperative Trial on Asymptomatic Carotid Stenosis

References


Response
I believe the comments by Drs Hobson and Weiss are pertinent and factual, and I hope their conclusions will be supported by the ACAS study. At present, however, their study does not solve the controversy.

Their comments do not change what was stated in the Willis Lecture: "Unfortunately, in a study in which the treatment cannot be blinded, these [end points] were primarily transient events and quite likely could have been influenced by bias. The primary, hard, nonsubjective end points of stroke and death were not significantly different."

This was true in their paper in the New England Journal of Medicine, where the hard, nonsubjective end points of stroke and death were summarized in Table 5 and were not significantly different for the surgical group (87 of 211) than for the medical group (103 of 233).

I would not argue with their conclusion that they should support the clinical follow-up of the ACAS trial. Nor would I argue that it would be wrong for surgeons with demonstrated low complication rates to perform endarterectomy on patients who are unwilling or unable to participate in the ACAS trial. But it would also not be wrong to treat them medically.

If Drs Hobson and Weiss truly believe that carotid endarterectomy offers proven advantages over medical therapy, it would be unethical to continue the ACAS study. Continuing participation must mean that they, as conscientious physicians and clinical scientists, have agreed with my conclusions that the issue still hasn't been put to rest.

Mark L. Dyken, MD
Editor-in-Chief, Stroke Journal
Department of Neurology
Indiana University School of Medicine
Indianapolis, Ind

References


Pharmacologically Induced Hypothermia for Cerebral Protection in Humans

We read with interest the article by Zhang et al regarding the protective effect of hypothermia during reperfusion in a rat model of reversible middle cerebral artery ischemia. We agree that the results of this and other studies suggest that hypothermia may be a useful cerebral protective agent during postischemic reperfusion. In the accompanying editorial comment, Zivin points to the difficulty in rapidly inducing and maintaining hypothermia in humans if this therapeutic approach were to be translated into the clinical area. He suggests that this may limit the use of the technique in patients with stroke. We agree that this may be the case if conventional methods of cooling, such as those described by Zivin, are used. However, the use of pharmacological hypothermic agents may allow us to reduce body temperature in a controlled and reproducible manner. The centrally acting cholinergic agent oxotremorine can produce profound hypothermia but is associated with several undesirable peripheral cholinergic side effects such as bronchospasm. However, other more selective central nervous system cholinergic agonists can produce hypothermia with reduced peripheral effects. A recent article has shown that such drugs, when administered before induction of temporary forebrain ischemia and during reperfusion in a gerbil model, produce reduction in the amount of neuronal loss by their hypothermic effect. The temperature reduction of approximately 2°C produced in these experiments would be expected to have profound cerebral protective effects. Although application to human subjects requires further work, these data at least provide a basis for the investigation of pharmacological methods of providing hypothermic cerebral protection in patients.

D.K. Menon, MBBS, MD, MRCP, FRCA
Y. Young, MBBS, MRCP, FRCA
Department of Anaesthesia
University of Cambridge
Addenbrookes Hospital
Cambridge, UK

References


Response
Homeothermic animals have developed a variety of mechanisms for temperature regulation. Heat is produced predominantly by basal metabolism and muscular activity (including shivering), and is lost mainly through radiation and convection. Heat production is an active process, whereas heat loss is largely passive. The body as a whole, as well as the brain, is mostly composed of water that has a relatively high thermal capacity. Therefore, heat is readily...
Controversies in stroke: past and present.
R W Hobson, 2nd and D G Weiss

Stroke. 1994;25:521-522
doi: 10.1161/01.STR.25.2.521.c

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://stroke.ahajournals.org/content/25/2/521.3.citation