

A commentary on the 2008 European guidelines for management of ischemic stroke and transient ischemic attack

Harold P. Adams

Division of Cerebrovascular Diseases, Department of Neurology, Carver College of Medicine, University of Iowa, IA, United States

Stroke is a leading cause of death, disability, and human suffering in Poland and other European countries. In addition, the economic consequences of stroke resulting from health care-related expenses and lost productivity are considerable. The importance of stroke as a health care problem will grow in the years ahead largely because of the aging of the European population. With the advent of evidence-based medicine to influence decision making, detailed information about safe and effective measures to prevent and treat stroke is needed by health care providers. This information is based on an assessment of the results of clinical research that tests the utility of diagnostic studies and treatment modalities. Such information is provided by the guidelines for management of ischaemic stroke and transient ischemic attack 2008 that was recently authored by the European Stroke Organization.¹ The goal of the statement is to provide up-to-date guidance that can be used by physicians, other health care providers, health care administrators, and the public. This document meets this goal. The authors of the statement should be commended for their scholarly review of the literature and their efforts that would be relevant for patients seen throughout Europe.

The aims and contents of the recent European statement are similar to those contained in guidelines authored by professional groups in other parts of the world.²⁻¹⁶ The statement is as up-to-date as possible given the rapid pace of research in cerebrovascular disease. The number of references is extensive and the paper and its references are a resource for physicians. The levels of evidence and the strengths of the recommendations, which are defined in the publication, are similar to those used in other recently published guidelines.^{4,5,17} The good clinical practice (GCP)

recommendation reflects a consensus of best medical practice by the members of the panel and usually means that there are limited or no clinical data available to provide a framework for the development of a recommendation. A large number of recommendations are categorized as GCP, which reflects the gaps in research on the best evaluation and treatment of patients with ischemic cerebrovascular disease.

The European panel primarily consists of a distinguished group of neurologists and stroke physicians but there appears to be limited input from a broader spectrum of health care professionals that care for persons with stroke, such as emergency medical services personnel, rehabilitation specialists, or nurses. Hopefully, the membership of future panels will be expanded include a wide representation of members that reflect the multidisciplinary management of European patients with ischemic cerebrovascular disease.

The European guideline contains numerous recommendations covering a very broad range of topics including:

- 1 organization of health resources including the creation of stroke centers and stroke units
- 2 public and professional education
- 3 emergency medical services
- 4 emergency transfer and referral
- 5 emergency and subsequent diagnostic studies
- 6 primary prevention of stroke and prevention of recurrent stroke
- 7 treatment of risk factors for accelerated atherosclerosis and stroke
- 8 antithrombotic agents to prevent stroke
- 9 surgical or endovascular procedures to prevent stroke
- 10 general emergency management of acute stroke

Correspondence to:

Harold P. Adams, Jr., MD,
Department of Neurology,
University of Iowa, 200
Hawkins Drive, Iowa City, IA,
USA, phone: 001-319-356-4110,
fax: 001-319-384-7199, e-mail:
harold-adams@uiowa.edu

Received: August 29, 2008.

Accepted: September 16, 2008.

Conflicts of Interest: Harold
P. Adams chaired the panel that
wrote the guidelines for treatment
of acute ischemic stroke for
the American Stroke Association/
American Heart Association.

He has had numerous inter-
actions with public and
professional interest groups
in stroke. He is doing or recently
has performed research
activities funded by the following
commercial interests: NMT
medical, Merck, Schering-Plough,
Boehringer-Ingelheim, and Sanofi/
BMS.

Pol Arch Med Wewn. 2008;

118 (12): 686-688

Copyright by Medycyna Praktyczna,
Kraków 2008

- 11 administration of interventions specifically aimed at limiting the neurological consequences of stroke (stroke-specific therapies including measures to restore perfusion or to protect ischemic brain tissue)
- 12 prevention and treatment of complications of stroke
- 13 general management during the acute hospitalization
- 14 rehabilitation and return to society.

Each of these topics is discussed, supporting data reviewed, and recommendations are outlined in the approximately 30 pages of the document. The unitary approach differs from the American strategy of writing independent but complementary statements focusing on components of care of patients with ischemic cerebrovascular disease.^{4,5,7,12,18}

The desire to include the gamut of recommendations covering all aspects of management of patients with ischemic cerebrovascular disease has considerable merit. In this effort, the European guidelines strongly meet this aim. The recommendations are clearly written. However, because of the relatively short discussions, this statement lacks some of the specifics that are included in other statements. Many details that could be helpful for case-by-case decision making are not reviewed. As a result, physicians and other health care providers may need to seek information from other sources. For example, the section on the administration of intravenous recombinant tissue plasminogen activator (rtPA) does not list potential contraindications for use of the agent, such as a recent ischemic stroke, surgery, bleeding, or head injury. Such detail has been shown to be important because not following the detailed list of recommended indications or contraindications contained in the guidelines has been associated with a high rate of adverse experiences following the use of rtPA.^{19,20} Physicians probably would welcome recommendations about the selection of antihypertensive agents that could be administered in an emergency setting. While there is a reason for not including such recommendations because of the lack of available data, many physicians likely would appreciate some guidance as to potential indications for treatment and choices of medications. Hopefully, future versions of the European guidelines would include some specific details related to the indications for specific interventions including thrombolytic therapy, antihypertensive medications, etc.

In general, the statement provides important recommendations, including those based on consensus or usual practice that will be useful for physicians across Europe. However, there are other areas in the statement that may be controversial or unclear. For example, the panel recommends that oral anticoagulants should not be given to patients with non-cardioembolic stroke except for some other specific indications, such as aortic atheromas, fusiform aneurysms of the basilar artery, or cervical artery dissection. By its

wording, this statement, in effect, becomes a recommendation (GCP, Class IV) to use anticoagulants in those situations. Unfortunately, there are no data to support the use of oral anticoagulants in these situations and some physicians would recommend antiplatelet agents. In addition, this recommendation may hamper support for ongoing or planned trials testing antiplatelet agents and anticoagulants for these indications. Maybe the conclusion could have stated that because there are no definitive data, no recommendation about the use or non-use anticoagulants in these scenarios.

Overall, the statement is a thorough review of the current state of the art of the management of patients with ischemic cerebrovascular disease and the recommendations, which given broadly, are very reasonable. While this statement aimed at stroke care across Europe, some of the recommendations may need to be modified to meet the specific situations of individual countries and their health care systems. The lack of specifics in some of the recommendations in the guideline may be the result of the variability in stroke practices in different countries in Europe. This lack of detail is a limitation of the statement and readers may need to seek other resources to find the specifics that could be useful in their day-to-day treatment of patients.

REFERENCES

- 1 The European Stroke Organisation (ESO) Executive Committee and the ESO Writing Committee Guidelines for management of ischaemic stroke nad transient ischaemic attack 2008. *Cerebrovasc Dis.* 2008; 25: 457-507.
- 2 Shinohara Y, Yamaguchi T. Outline of the Japanese guidelines for the management of stroke 2004 and subsequent revision. *International Journal of Stroke.* 2008; 3: 55-62.
- 3 Lindsay P, Bayley M, McDonald A, et al. Toward a more effective approach to stroke: Canadian best practice recommendations for stroke care. *CMAJ.* 2008; 178: 1418-1425.
- 4 Sacco RL, Adams R, Albers G, et al. Guidelines for prevention of stroke in patients with ischemic stroke or transient ischemic attack: A statement for healthcare professionals from the American Heart Association/American Stroke Association Council on Stroke: Co-Sponsored by the Council on Cardiovascular Radiology and Intervention: The American Academy of Neurology affirms the value of this guideline. *Stroke.* 2006; 37: 577-617.
- 5 Goldstein LB, Adams R, Alberts MJ, et al. Primary Prevention of Ischemic Stroke: A Guideline From the American Heart Association/American Stroke Association Stroke Council: Cosponsored by the Atherosclerotic Peripheral Vascular Disease Interdisciplinary Working Group; Cardiovascular Nursing Council; Clinical Cardiology Council; Nutrition, Physical Activity, and Metabolism Council; and the Quality of Care and Outcomes Research Interdisciplinary Working Group: The American Academy of Neurology affirms the value of this guideline. *Stroke.* 2006; 37: 1583-1633.
- 6 Adams RJ, Albers G, Alberts MJ, et al. Update to the AHA/ASA recommendations for the prevention of stroke in patients with stroke and transient ischemic attack. *Stroke.* 2008; 39: 1647-1652.
- 7 Adams HPJ, del Zoppo G, Alberts MJ, et al. Guidelines for the Early Management of Adults With Ischemic Stroke: A Guideline From the American Heart Association/American Stroke Association Stroke Council, Clinical Cardiology Council, Cardiovascular Radiology and Intervention Council, and the Atherosclerotic Peripheral Vascular Disease and Quality of Care Outcomes in Research Interdisciplinary Working Groups: The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists. *Circulation.* 2007; 115: e478-e534.
- 8 Mullis RM, Blair SN, Aronne LJ, et al. (and American Heart Association Prevention Conference VII). Obesity, a worldwide epidemic related to heart disease and stroke: Group IV: prevention/treatment. *Circulation.* 2004; 110: e484-e488.
- 9 Gordon NF, Gulanick M, Costa F, et al. (and American Heart Association Council on Clinical Cardiology, Subcommittee on Exercise, C.R.a.P., the Council on Cardiovascular Nursing, the Council on Nutrition, P.A.a.M., and the Stroke Council Physical activity and exercise recommendations for stroke survivors): an American Heart Association scientific statement

from the Council on Clinical Cardiology, Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention; the Council on Cardiovascular Nursing; the Council on Nutrition, Physical Activity, and Metabolism, and the Stroke Council. *Circulation*. 2004; 109: 2031-2041.

10 Adams RJ, Chimowitz MI, Alpert JS, et al. Council and the Council on Clinical Cardiology of the American Heart Association, and American Stroke Association Coronary risk evaluation in patients with transient ischemic attack and ischemic stroke: a scientific statement of healthcare professionals from the Stroke Council and the Council on Clinical Cardiology of the American Heart Association/American Stroke Association. *Circulation*. 2003; 108: 1278-1290.

11 Roach ES, Golomb MR, Adams R, et al. Management of Stroke in Infants and Children: A Scientific Statement From a Special Writing Group of the American Heart Association Stroke Council and the Council on Cardiovascular Disease in the Young. *Stroke*. 2008; 39: 2644-2691.

12 Acker JE, III Pancioli AM, Crocco TJ, et al. Implementation Strategies for Emergency Medical Services Within Stroke Systems of Care: A Policy Statement From the American Heart Association/American Stroke Association Expert Panel on Emergency Medical Services Systems and the Stroke Council. *Stroke*. 2007; 38: 3097-3115.

13 Latchaw RE, Yonas H, Hunter GJ, et al. Guidelines and recommendations for perfusion imaging in cerebral ischemia. A scientific statement for healthcare professionals by the Writing Group on Perfusion Imaging, from the Council on Cardiovascular Radiology of the American Heart Association. *Stroke*. 2003; 108: 1104.

14 Coull BM, Williams LS, Goldstein LB, et al. Anticoagulants and antiplatelet agents in acute ischemic stroke. Report of the Joint Stroke Guideline Development Committee of the American Academy of Neurology and the American Stroke Association (a division of the American Heart Association). *Neurology*. 2002; 59: 13-22.

15 Duncan PW, Zorowitz R, Bates B, et al. Management of Adult Stroke Rehabilitation Care: A Clinical Practice Guideline. *Stroke*. 2005; 36: e100-e143.

16 Swain S, Turner C, Tyrrell P, Rudd A. Diagnosis and initial management of acute stroke and transient ischaemic attack: summary of NICE guidance. *Br Med J*. 2008; 337: a786.

17 Adams H, Adams R, del Zoppo G, Goldstein LB. Guidelines for the Early Management of Patients With Ischemic Stroke: 2005 Guidelines Update A Scientific Statement From the Stroke Council of the American Heart Association/American Stroke Association. *Stroke*. 2005; 36: 916-923.

18 Bates B, Choi JY, Duncan PW, et al. Veterans Affairs/Department of Defense Clinical Practice Guideline for the Management of Adult Stroke Rehabilitation Care: Executive Summary. *Stroke*. 2005; 36: 2049-2056.

19 Katzan IL, Furlan AJ, Lloyd LE, et al. Use of tissue-type plasminogen activator for acute ischemic stroke: the Cleveland area experience. *JAMA*. 2000; 283: 1151-1158.

20 Lopez-Yunez AM, Bruno A, Williams LS, et al. Protocol violations in community-based rtPA stroke treatment are associated with symptomatic intracerebral hemorrhage. *Stroke*. 2001; 32: 12-16.