Organizational Updates

American Stroke Association Stroke Council Update

Sea Change for Stroke and the American Stroke Association

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This report represents the Spring 2015 update of the Stroke Council. Much has happened in the last 12 months, and we want to particularly focus on the major developments in acute stroke therapy and their implications, progress in the American Stroke Association (ASA)/American Heart Association (AHA) quality initiatives and tiered systems of stroke care, and the approval of a new code for the National Institutes of Health Stroke Scale (NIHSS).

2020 Goals and Progress to Date

Each Stroke Council Update starts with restating our 2020 Goals: to improve the cardiovascular health of all Americans by 20% while reducing deaths from cardiovascular diseases and stroke by 20%. In December 2014, we had further evidence that our efforts are bearing fruits. In 2011, stroke fell from the number 3 to the number 4 cause of death in the United States, and in December, stroke fell from number 4 to number 5. This development, which reflects the continued decrease in age-adjusted mortality rates for stroke, is a remarkable testament to concerted educational and public health efforts to control blood pressure, decrease tobacco use, appropriately treat atrial fibrillation, educate the public about stroke warning signs, and improve and standardize the neurocritical care of stroke patients. Yet, it is sobering that the actual number of strokes continues to increase as the population ages because the incidence of stroke increases markedly with age. Stroke remains the second leading cause of death worldwide and one of the leading causes of disability worldwide. That is why the ASA/AHA is partnering with the World Stroke Organization and World Health Organization to take best practices and apply them worldwide. We have accomplished much but have more to do.

Tsunami of Acute Stroke trials at the International Stroke Meeting

The International Stroke Conference Scientific Sessions and Pre-conference meetings in Nashville was a great success with 4341 attendees, the largest number of attendees ever.

The quality of the science presented at the meeting was outstanding with the results of 4 randomized endovascular trials presented at the meeting: Multicenter Randomized Clinical Trial of Endovascular Therapy for Acute Ischemic Stroke in the Netherlands (MR CLEAN), including a pooled analysis of severe stroke with the Interventional Management of Stroke (IMS) III Trial, Endovascular Treatment for Small Core and Anterior Circulation Proximal Occlusion With Emphasis on Minimizing CT to Recanalization Times (ESCAPE), Extending the Time for Thrombolysis in Emergency Neurological Deficits-Intra-Arterial (EXTEND-IA) Trial, and Solitaire With the Intention for Thrombectomy as Primary Endovascular Treatment (SWIFT PRIME) Trial. All together, these 4 new randomized trials of endovascular therapy, with several more to follow, represent a sea change for acute ischemic stroke therapy and really the first major advance in acute stroke therapy since the approval of tissue-type plasminogen activator by the Food and Drug Administration in 1996. We now have data that endovascular therapy can provide additional benefit to intravenous tissue-type plasminogen activator in patients with large artery occlusions. These trials emphasize the primacy of rapid reperfusion in improving outcome in ischemic stroke patients. What these trials do not answer is whether endovascular therapy can benefit selected patients in time windows beyond 6 hours. What is also clear is that a substantial proportion of ischemic stroke patients have poor outcomes despite endovascular therapy, even when the occluded artery is opened quickly. This provides impetus for further research but also reminds us about the biological limits of therapy. Finally, the benefit of endovascular therapy in certain populations of stroke patients has major implications for regional stroke systems of care and prehospital triage of stroke patients in communities across the world. There is much work to be done to better understand the data in these trials, to design and complete additional trials needed to answer new questions, and to implement the necessary changes in the delivery of acute stroke care from the location of the stroke onset to delivery of therapy. The ASA is working on a updated Stroke Advisory for Acute Ischemic Stroke to reflect these new trials.

It will be critical for all of us in the Stroke Council to be active at the local hospital, regional, state, and national levels to develop the best systems of acute stroke care for our communities over the coming years. What is best for the patient, not for a given hospital system or systems, should be the focus of these discussions. However, we have entered the beginning of the end of an era for treatment of acute ischemic stroke, just like our cardiology and emergency medicine colleagues who treat acute myocardial infarction and for whom finding additional advances beyond current reperfusion devices and medical treatments has been challenging.
We will continue to explore better ways to open arteries by medicines and devices, and neuroprotection to preserve brain until the artery can be reopened, but much of the research in the next century will focus on brain recovery and rehabilitation after stroke.

**NIHSS Gets a International Classification of Diseases Tenth Revision Clinical Modification Code for Acute Stroke Patients**

In last year’s update, we reported on the Scientific Statement in the January issue of *Stroke* about mortality and readmission measures for stroke. A Presidential Commission article from the ASA on same topic was published in February, 2014. The government and society have strongly advocated for high-quality health care and stroke is no exception. The Centers for Medicare and Medicaid Services (CMS) was tasked to develop quality measures for stroke care at US hospitals. The measurements chosen by CMS were 30-day mortality after ischemic stroke and 30-day readmission rates, and models were developed to assess hospital performance. However, their current models do not include the severity of stroke at baseline, which is not present in the CMS administrative database and which is, by far, the most important determinant of stroke mortality and outcome. However, CMS measurement of hospital performance by these measures has begun and these data are publicly reported. It is expected that primary and comprehensive stroke centers, particularly those in urban centers with disadvantaged populations, would be most likely to have the most severe strokes and have higher stroke mortality rates, as compared with smaller hospitals who keep more straightforward and less severe patients.

A major accomplishment at the end of 2014 was the approval by the Center of Disease Control of *International Classification of Diseases* Tenth Revision Clinical Modification codes for the NIHSS (a separate code for each level of the scale). This will become active in fall of 2016 and will enable CMS to measure and to adjust for stroke severity at all hospitals. While it will take several years beyond 2016 for the data to be used by CMS in reporting hospital mortality and readmission rates, it will result in much more accurate measurements and comparisons of hospital outcomes. This would not have happened without extensive advocacy efforts of the ASA/AHA and physician and healthcare volunteers. ASA/AHA also played an important role in the advocacy efforts at CMS leading to the new diagnosis related groups for intravenous tissue-type plasminogen activator treatment in 2005. Please volunteer and be an active member in the ASA/AHA. We have other major societal and healthcare delivery discussions upcoming as noted above and your voice is crucially needed.

**New Tier in the Stroke System of Care**

One of the great accomplishments in improving stroke care in the United States has been the development and implementation of the Get with the Guidelines for Acute Stroke, which has helped to standardize the quality of stroke care throughout the United States. In addition, Get with the Guidelines helped to provide the basis for the AHA/ASA/Joint Commission on Accreditation of Healthcare Organization (JCAHO) partnership in tiered systems of stroke care which has included primary stroke centers, comprehensive stroke centers, and starting this spring, stroke-ready hospitals. This 3-tiered system in the United States currently includes 1055 primary and 85 comprehensive stroke centers. Just 6 years ago, <30% of patients received intravenous tissue-type plasminogen activator within 60 minutes of arrival. Today, that number is >60%, and in 2014 >75 US hospitals in Get With The Guidelines treated >50% of their patients within 45 minutes of arrival. The next goal for the country is to get half of all patients treated within 45 minutes of arrival, a goal that we think is reachable.

**Summary**

This is my last time as the primary author of these updates as Colin Derdeyn takes on the role as Stroke Council Chair in July and Karen Furie becomes the President Elect. I have been privileged to be at the birth of acute stroke therapy in the late 1980s and I am delighted to see our next steps going forward. We have knotty challenges ahead: finding treatments for intracerebral hemorrhage (getting close), prevention of cognitive decline because of cerebrovascular disease, improving population risk factors for stroke, and the greatest challenge, improving brain recovery and functional rehabilitation after stroke. I am proud to be part of a great community of health personnel, scientists, and advocates that finds its focus within the ASA/AHA. Our success in reaching our goals depends on all of us; be an active participant.

**Disclosures**

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