Getting the Word Out on Stroke Guidelines

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The causes, treatment, and outcome of acute ischemic stroke in the United States vary based on age, sex, severity, and geographic location of such patients. It is clearly established that older ischemic stroke patients on average have more severe strokes and a less favorable outcome than do younger stroke patients. They are less likely to receive intravenous tissue plasminogen activator (tPA) therapy and recommended secondary prevention therapies such as anticoagulation, antiplatelet agents, and statins. Similarly, women, patients living in rural areas, and those residing in the US South and Midwest are also less likely to receive intravenous tPA therapy than are men, urban/suburban residents, and those residing in other parts of the country. Previous studies have suggested potential ex-urban/suburban residents, and those residing in other parts of the country. Previous studies have suggested potential ex-

The Get With the Guidelines-Stroke (GTWG-Stroke) program is an important contributor to our understanding of stroke patient characteristics and care across a broad range of hospitals in the United States. The GTWG-Stroke program was initiated as a pilot study in 8 states by the American Heart Association/American Stroke Association, and the pilot phase demonstrated the viability of this approach to stroke patient data collection from a large sample of hospitals with varying demographics. The GTWG-Stroke program also provided recommended performance measures for both acute care and care at discharge to participating hospitals that could then serve as a basis for evaluating quality of care at participating hospitals and improvements in quality over time. The expanded GTWG-Stroke program was initiated in 2003 and provides a relatively standardized data collection platform from more than 1250 hospitals nationwide that can be used to track temporal changes in patient demographics and adherence to patient care metrics.

This report from the GTWG-Stroke program gives information about 502 036 acute ischemic stroke patients observed during a 6-year time period. The patient population included those aged 8.9% younger than 50 years, 13.7% 50 to 59 years, 18.9% 60 to 69 years, 24.9% 70 to 79 years, 26.4% 80 to 89 years, and 7.1% older than 90 years. Women represented slightly more than half of the cohort: 52.5%. Ethnicity varied by age, with blacks constituting 27.0% of the younger than 50-year-old patients and only 6.4% of those older than 90 years old. Hispanics were similarly more prevalent in the younger patients than the older groups. The older patients had more medical stroke risk factors, aside from diabetes mellitus, and substantially higher rates of atrial fibrillation/flutter. The performance metrics were done significantly less frequently in the older than 80-year-old patients. Specifically, the tPA was used in 7.9% and 10.6% fewer 80- to 89-year-old patients and older than 90-year-old patients, respectively, than in those <50 years old. Substantially fewer older than 90-year-old patients received lipid-lowering therapy than did those in all of the other age strata. Mortality increased in the older patients. Discharge to a skilled nursing facility was greater in the older patients, accompanied by a decrease in discharge home. All of these observations were not altered when adjustments were made for confounding variables. Encouragement can be derived from the improvement in compliance with all of the performance measures across all age strata between 2003 and 2009. Particularly encouraging was the dramatic increase in the percentage of tPA use in patients arriving within 2 hours of acute ischemic stroke onset across all age groups, ranging from a low of 62.4% in 2003 to a high of 70.0% in 2009. Similarly, the use of anticoagulants in atrial fibrillation patients and the use of statins increased dramatically during the study period. These improvements in performance metrics were most frequently observed in older patients.

The data provided from the GTWG-Stroke hospitals for the study period 2003 to 2009 are encouraging in that the standard of care for acute ischemic stroke patients across the United States is improving dramatically. The hospitals participating in the program are closely adhering to recommendations for high-quality stroke care, and their performance on all of the performance measures improved noticeably across the age spectrum of ischemic stroke patients. Unfortunately, the present report does not provide information on whether these improvements in care metrics translated into reduced mortality or recurrent stroke risk. It is hoped that future data from the GTWG-Stroke group will provide such information, so that improvement in acute and discharge performance measures will translate into improved outcome from the index stroke and less risk for subsequent strokes. Another concern about the data provided in this report is the generalizability of the observed results. The hospitals participating in the GTWG-Stroke program are self-selected and presumably have a substantial interest in the quality of care of

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acute ischemic stroke patients and likely better resources than many nonparticipating hospitals. The percentage of academic hospitals participating was large, and most of the hospitals in the United States not participating in the program are not academic, are smaller, and likely have fewer resources. It would be most useful if possible to observe and compare performance measures between GTWG-Stroke hospitals and nonparticipating hospitals. One obvious difference between such hospitals is the use of tPA. In a recent report reflecting tPA usage from a national Medicare database in patients older than 65 years old between 2005 and 2007, Kleindorfer et al observed that only 2.4% of patients received intravenous tPA and 64% of the eligible hospitals did not use tPA at all during part of the same time period encompassed by the GTWG-Stroke report. The percentage of patients older than 65 years old who received tPA was substantially higher in the GTWG-Stroke hospitals. This observation raises concerns about how well the other performance measures are being adhered to in hospitals in general.

Disclosures

None.

References

