# Women With Stroke Far Less Likely to Get TPA

### BY MICHELE G. SULLIVAN Mid-Atlantic Bureau

WASHINGTON — Women are half as likely as men to receive tissue plasminogen activator when they present to a hospital with acute stroke, Matthew Reeves, Ph.D., said at a conference sponsored by the American Heart Association.

The difference remained constant even when considering only those who arrived within 2 hours of symptom onset and had no contraindications, said Dr. Reeves of Michigan State University, East Lansing.

There was definitely a robust gender difference that was difficult to explain away," he said. The disparity in TPA therapy may be one factor that contributes to the gender differences in stroke outcome, he theorized. "Women are less likely to be discharged home and less likely to have good functional outcomes after a stroke. The medical therapy provided in the hospital may be one reason behind these differences.<sup>4</sup>

Dr. Reeves reviewed the charts of 2,566 patients who presented at 15 Michigan hospitals during a 6-month period in 2002. There were some significant differences at baseline, he said. Women were on average 3 years older than men (70 vs. 67 years), and more were older than 80 at the time of their stroke (33% vs. 20% of men). Additionally, women were significantly less likely to have a history of prior heart disease and dyslipidemia, less likely to be smokers or to have been ambulatory before the stroke, and more likely to have a history of heart failure and hypertension.

For most in-hospital treatments, there were no significant gender disparities, Dr. Reeves said. Women had slightly less cardiac monitoring, angiography, echocardiography, and cerebrovascular investigation, but those differences dissipated after adjusting for age and other confounders.

"The most striking difference we found was that among ischemic stroke patients, women were half as likely as men to get TPA," he said (2.2% vs. 4.4%). "We even subanalyzed the group that arrived within the 2hour treatment window and had no contraindications to the therapy, and although the treatment numbers went way up, to 18% for women and 28% for men, the difference between them remained significant."

He also found a significant difference in lipid testing (42% vs. 51%). But it was interesting that there was no difference in the percent of patients who received lipid-lowering drugs at discharge, he said.

Nor were there many significant differences in in-hospital outcomes, he said. Women had slightly higher unadjusted mortality rates (9.3% vs. 8.5%), but the difference disappeared after adjusting for age. Women did have a marginally significant higher risk of worse function

outcome at discharge—17%. There were no significant adjusted differences in deep vein thromboses, pulmonary embolism, or pneumonia.

The only significant outcome difference Dr. Reeves discovered was in urinary tract infection: There were more in women than in men (11% vs. 4%; OR 2.6).

There were no differences in use of warfarin, antithrombotics, or DVT prophylaxis,



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BOSTON — The risk of an early ischemic stroke following a transient ischemic attack is significantly higher in patients who are discharged from the emergency department than in those who are admitted to the hospital for a TIA evaluation.

Neurologist consultation may be a key factor in the protective effect of hospitalization, Dr. Sharon Poisson said at the annual meeting of the American Academy of Neurology. "In the emergency room, only 1% of the discharged group and 4% of the admitted group received a neurologist consultation. But an additional 50% of those who were admitted did see a neurologist during that admission."

Dr. Poisson of the University of Michigan, Ann Arbor, presented a subanalysis of the Brain Attack Surveillance in Corpus Christi (BASIC) study. The prospective, populationbased study tracks strokes and transient ischemic attacks occurring in the coastal Texas city. Dr. Poisson's data were collected from 2000 to 2005 and included 552 first-time probable or possible TIAs. Of these, 31% (171) were discharged from the emergency department and 69% (381) were admitted to the hospital. The average patient age was 71 years; 42% were male.

Stroke occurrence at 3 and 7 days in those discharged from the ED was 4.7% and 5.9%, compared with 0.26% and 0.53% in those admitted. By 30 davs. 19 ischemic strokes had occurred in 7% of those discharged and

2% of those admit-DATA WATCH Types of Stroke in Patients Admitted via Emergency Department 1.0% 0.2% Acute ill defined Both hemorrhagic 9.7% and ischemic Hemorrhagic 24.0% Transient ischemic 65.1% attack Ischemic Note: Based on data from January 2005 through September 2006 for Georgia, Illinois, Massachusetts, and North Carolina. Source: Centers for Disease Control and Prevention

ted—a statistically significant difference. Over the next 2 years, more ischemic strokes occurred at every time point in those discharged, compared with those admitted, but the differences were not significant.

The association between admission and lower stroke risk persisted even after adjustment for age, gender. ethnicity, hypertension, diabetes, atrial fibrillation, hyperlipidemia, smoking, and coronary artery disease, Dr. Poisson said.

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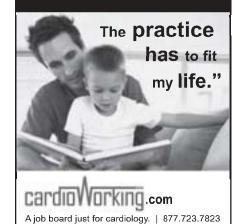
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