

Secondary Stroke Prevention

**Satellite Conference and Live Webcast
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Faculty

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Objective

- **Discuss recommendations for the prevention of ischemic stroke among survivors of ischemic stroke or transient ischemic attack (TIA)**

Stroke:

Major Public Health Burden

- **About 795,000 Americans each year suffer a new or recurrent stroke**
 - **That means, on average, a stroke occurs every 40 seconds**

Stroke:

Major Public Health Burden

- **Stroke kills more than 137,000 people a year**
 - **That's about 1 of every 18 deaths**
 - **It's the number 4 cause of death**
- **On average, every 4 minutes someone dies of stroke**

Stroke:

Major Public Health Burden

- **About 40% of stroke deaths occur in males**
 - **60% in females**

Stroke: Major Public Health Burden

- The 2006 stroke death rates per 100,000 population:
 - 42 for white males
 - 41 for white females
 - 68 for black males
 - 57 for black females

Stroke: Major Public Health Burden

- Americans will pay about \$74 billion in 2010 for stroke-related medical costs and disability

Stroke: Alabama's Major Health Burden

- In 2010, 2,601 Alabamians died from cerebrovascular disease
 - 1907 (73%) were white
 - 694 (27%) were black or other race
 - 4th leading cause of death in Alabama in 2010

Management of Stroke

- The best approach towards reducing the extreme burden that stroke places on our society and Alabama remains prevention

TIA or Stroke Survivors

- After stroke, survivors tend to focus on rehabilitation and recovery
 - But, preventing another (or recurring) stroke is also a key concern
- Survivors of a TIA or stroke are at increased risk of suffering another stroke

Recurrence After First Stroke

- Of the 795,000 Americans who have a stroke each year, 5-14% will have a second stroke within one year
 - 3-10% at 30 days
 - 5-14% at 1 year
 - 25-40% at 5 years
- Within five years, stroke will recur in 24% of women and 42% of men

Secondary Prevention The Evidence into Practice

- Standardized performance measures
- Venous Thromboembolism (VTE) prophylaxis
- Lipid profile
- Antithrombotic by end of hospital day 2 and discharge
- Statin therapy at discharge

Secondary Prevention The Evidence into Practice

- Anticoagulant therapy for Atrial Fibrillation/Flutter
- Thrombolytic therapy
- Stroke education
- Assessed for rehabilitation

Challenges to In-hospital Initiation of Secondary Prevention Strategies

- Barriers
 - Communication gaps
 - Neurologist and PCPs
 - Lack of ownership
 - Acute vs. chronic disease dilemma

Challenges to In-hospital Initiation of Secondary Prevention Strategies

- Poor standardization of orders, testing
- Lack of financial incentives
- Lack of tools/resources
- Lack of proof of concepts

Challenges to In-hospital Initiation of Secondary Prevention Strategies

- Solutions
 - Education and mobilizing case management teams
 - Hospital is the capture point for patients with acute disease

Challenges to In-hospital Initiation of Secondary Prevention Strategies

- Preprinted orders, testing per protocols
- Joint Commission and GWTG measuring and reporting
- Patient survey and follow-up
 - 30 days, 90 days

Secondary Stroke Prevention: Education

- What is a stroke?
- Warning signs of a stroke
- What to do if you are having symptoms
- What you should know
 - Personal risk factors for stroke

Secondary Stroke Prevention: Education

- Follow-up medical care after you leave the hospital
- Stroke recovery resources

Secondary Stroke Prevention: Hypertension

- Blood pressure (BP) reduction is recommended for prevention of recurrent stroke
- Target BP level and reduction should be individualized

Secondary Stroke Prevention: Hypertension

- Blood pressure can be controlled through diet and exercise
 - Salt restriction, weight loss, eat more fruits, vegetables, and low fat foods

Secondary Stroke Prevention: Hypertension

- Regular physical activity
 - Brisk walk, bicycle ride, yard work, etc.
 - At least 30 minutes five or more days a week

Secondary Stroke Prevention: Diabetes

- Glycemic control in patients with diabetes is recommended for patients who have had a stroke or TIA
- Keeping your blood sugar within normal range (70-105 fasting) will lower your risk for another stroke

Secondary Stroke Prevention: Lipids

- People with high blood cholesterol have an increased risk for stroke
- High blood cholesterol can be reduced by eating right (avoid fried, fatty foods) and exercising routinely
- May require statin, especially if LDL level > 100mg/dl and who are without known coronary heart disease (CHD)

Secondary Stroke Prevention: Lipids

- Lifestyle modifications
 - Weight loss, exercise, and dietary measures

Secondary Stroke Prevention: Cigarette Smoking

- If stroke patient has smoked within the last 12 months advise to quit
- Avoid environmental (passive) tobacco smoke
- Counseling, nicotine products, and oral smoking cessation medications are effective for helping smokers quit

Secondary Stroke Prevention: Cigarette Smoking

- The use of oral contraceptives (birth control pills) combined with cigarette smoking greatly increases stroke risk in women
- For help with tobacco cessation, please call:
 - 1 – 800 – QUIT – NOW
 - (1 – 800 – 784 – 8669)

Secondary Stroke Prevention: Alcohol Consumption

- Heavy drinking can lead to multiple medical complications
 - Including increased risk for stroke

Secondary Stroke Prevention: Alcohol Consumption

- Patients with ischemic stroke or TIA who are heavy drinkers should eliminate or reduce their consumption of alcohol
 - No more than 2 drinks per day for men
 - No more than 1 drink per day for women

Secondary Stroke Prevention: Alcohol Consumption

- Nondrinkers should continue to not drink
- Alcohol can also interact with drugs you are taking

Secondary Stroke Prevention: Physical Activity

- Being inactive or obese, or both, can increase your risk of high blood pressure, high blood cholesterol, diabetes, heart disease, and stroke
 - Waist circumference ≥ 40 inches in men and 35 inches in women
 - BMI > 25

Secondary Stroke Prevention: Physical Activity

- For patients with ischemic stroke or TIA:
 - Engage in at least 30 minutes of moderate intensity physical exercise if capable
 - Walking briskly, using an exercise bicycle

Secondary Stroke Prevention: Physical Activity

- May be considered to reduce the risk factors and co-morbid conditions that increase the likelihood of recurrent stroke

Secondary Stroke Prevention: Physical Activity

- For those individuals with a disability after ischemic stroke:
 - Supervision by a healthcare professional, such as PT or cardiac rehab tech, may be considered

Secondary Stroke Prevention: Carotid or Other Artery Disease

- Carotid artery disease and peripheral artery disease both raise your risk of stroke
- Carotid artery disease is a build-up of plaque in the large arteries of your neck

Secondary Stroke Prevention: Carotid or Other Artery Disease

- Peripheral artery disease is a build-up of plaque in the larger arteries that carry blood to your legs and arms

Secondary Stroke Prevention: Carotid or Other Artery Disease

- Treatment of your blood pressure, diabetes, cholesterol, and quitting smoking can reduce your risk for these problems and help reduce your risk of another stroke

Secondary Stroke Prevention: Carotid or Other Artery Disease

- Depending on the severity of carotid artery stenosis and the perioperative morbidity and mortality risk, carotid endarterectomy (CEA) or carotid angioplasty and stenting (CAS) maybe a treatment option

Secondary Stroke Prevention: Atrial Fibrillation

- This heart rhythm disorder raises the risk for stroke
- The heart's upper chambers quiver instead of beating regularly
 - Can let the blood pool and clot

Secondary Stroke Prevention: Atrial Fibrillation

- If a clot breaks off, enters the bloodstream and lodges in an artery leading to the brain, a stroke results
- Anticoagulation therapy is recommended

Secondary Stroke Prevention: Sickle Cell Disease

- This is a genetic disorder that mainly affects African American and Hispanic children

Secondary Stroke Prevention: Sickle Cell Disease

- “Sickle-shaped” red blood cells are less able to carry oxygen to the body’s tissues and organs
 - These cells also tend to stick to blood vessel walls
 - Can block arteries to the brain and cause a stroke

Secondary Stroke Prevention: Sickle Cell Disease

- General treatment recommendations
 - Control risk factors
 - Use of antiplatelet agents
 - Regular blood transfusions to reduce hgb S to < 30 to 50% of total hgb
 - Bypass surgery in cases of advanced occlusive disease

Secondary Stroke Prevention: Drug Use

- Drugs that are abused, including cocaine, amphetamines and heroin, have been associated with an increased risk for stroke
- Strokes caused by drug abuse are often seen in a younger population

Secondary Stroke Prevention: Obstructive Sleep Apnea (OSA)

- OSA is a proven risk factor for stroke
 - And high blood pressure and heart disease
- Snoring is the most common symptom of sleep apnea
- A family history of snoring and/or sleep apnea increases your risk of OSA

Secondary Stroke Prevention Compliance is Critical

- The key to preventing recurrent stroke is simple:
 - Follow your doctor’s suggestions about diet, exercise and weight loss, and take any medicine as directed

References

- ASA (2010). Guidelines for the prevention of stroke inpatients with stroke or transient ischemic attack: a guideline for healthcare professionals from the American heart association/American stroke association. Journal of the American heart association
- National Stroke Association (2009, June). Recovery After Stroke: Recurrent stroke. Retrieved from http://www.stroke.org/site/DocServer/NSAFactSheet_RecurrentStrokeRevised.doc?docID=997