

## Shands HealthCast – June 2009

### Stroke

**Scott Silliman, M.D.**

*Associate Professor of Neurology*

*University of Florida College of Medicine – Jacksonville*



#### **Intro:**

Welcome to another Shands HealthCast, brought to you by Shands Jacksonville. This HealthCast features a discussion about stroke with Dr. Scott Silliman, an associate professor of neurology with the University of Florida College of Medicine - Jacksonville. Dr. Silliman sees patients at the Shands Jacksonville Comprehensive Stroke Center and the UF St. Mary's Multispecialty Center. For more information about stroke or to make an appointment please call (904) 244-3960 or visit [jax.shands.org](http://jax.shands.org).

#### **Dr. Silliman:**

A stroke occurs when there's an alteration of blood flow to an area of the brain. The brain is supplied by a network of blood vessels called arteries, and one can imagine that the blood flow can be altered within an area of the brain. One way is to have the blood vessel clogged, and we call that a brain infarction. The other way is that the blood vessel can rupture and there could be leakage of blood into the brain, and we call that a hemorrhage.

In the United States, about 80 percent of strokes are brain infarctions and the remaining 20 percent hemorrhagic strokes. One key thing to remember is that stroke is often painless, including those bleeding strokes. Some people with bleeding strokes can have a sudden severe headache that's unlike any other headache they've had in their life in intensity, but by no means are headaches present in many people. In fact, the majority of patients with stroke don't have a headache.

Typically the warning signs of a stroke are those associated with sudden loss of brain function in an area of the brain. For instance, people can develop a sudden difficulty speaking, sudden difficulty understanding others, sudden weakness of a limb or arm and leg on one side. They may sometimes develop a sudden loss of sensation on one side of the body and also sudden difficulty walking, can be warning signs or symptoms associated with a stroke.

People are very familiar with a heart attack when a blood vessel eludes off on the surface of the heart. People realize that is very painful and produces chest pains. It very important that people remember that strokes don't cause pain, so in other words, somebody with a stroke may experience sudden loss of strength in an arm, but it's typically painless. Too often people don't feel like it's something serious if it doesn't hurt.

Stroke is a very common problem in the U.S. Each year there are about 750,000 to 800,000 Americans who experience a stroke. It has a severe impact on the quality of health in our population. It remains the third leading cause of death in the U.S. It's actually the leading cause of acquired physical disability in adults in our population. And most people don't realize that it's

the second leading cause of cognitive dysfunction in the U.S., ranking only behind Alzheimer's disease.

Stroke is definitely more common in the elderly but it by no means discriminates based on age. Stroke can occur in children, it can occur in young adults and also middle-aged adults. A lifetime risk of somebody having a stroke is about 1 in 8.

Stroke is associated with certain risk factors – by risk factors, we mean medical conditions or habits that increase the risks of someone having a stroke. The most common ones that are present in Americans are chronic high blood pressure, diabetes mellitus, elevated cholesterol levels, cigarette smoking and an irregular heartbeat called atrial fibrillation.

If someone is experiencing the symptoms or if someone witnesses another person, be it a family member or stranger, experiencing the symptoms of stroke, it's imperative that medical attention within an emergency department be sought emergently. The best way to access an emergency room is to use the 911 system. People should not try and call their primary care physician or another doctor who takes care of them. If they are experiencing these symptoms, the public must remember that time is brain.

The state of Florida is one of the few states in our county that mandates that EMS providers have a destination protocol for patients who they pick up via the 911 call. It means that EMS has to transport the patient to a designated, certified stroke center to receive specialized evaluations.

Designated, certified, stroke centers are those that are capable of delivering a clot busing drug called TPA. This is a drug that is delivered through an IV over an hour to patients that have a brain infarction.

The medication targets blood vessels that are in the brain and dissolves the blood clot. Giving this medicine requires a team effort, which we do have here at Shands. It requires the interplay of emergency medicine physicians, the neurologists and other professionals such as ER nurses, CT technologists, EKG specialists and laboratory specialists to gather as much data in the shortest amount of time possible to make that decision about giving TPA to a patient. It is quite amazing when the team assembles and we have to do a CAT scan, get blood drawn and do EKGs, chest X-rays, get the information back, speak with the family and administer the drug within the recommended timeframe of 60 minutes of arrival into the emergency room.

I emphasize the importance of people using the 911 system to get to the emergency department if they are having signs and symptoms of a stroke because we can only administer this drug through an IV within three hours from the symptom onset.

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We do also offer other specialized emergent care to patients with other types of strokes. For instance, those patients with bleeding strokes, or hemorrhagic strokes, we do have full-time neurosurgery here. We also have specialized radiology here and we have the capability of getting catheters up into the blood vessels in the brain and certain select patients may have brain infarction beyond three hours.

In order to make our stroke center available to as many people as possible, we do incorporate direct field-to-hospital transport protocols with many counties outlying Jacksonville. In these counties there are no certified stroke centers. We were the first center in the country to demonstrate this method of transporting patients directly from the field to a stroke center was feasible.

Once patients leave the emergency department, they are transferred to our inpatient neurology unit where nurses have special education in taking care of patients with stroke. Likewise our physical therapists, occupational and speech therapists and pharmacist are very familiar with taking care of stroke patients. And those patients who require intensive care unit care, we have physicians here that are two experts in caring for patients with critical illness as well.

We also are very involved in finding ways to improve outcomes from stroke. Unfortunately, not every patient with acute stroke who receives treatment from TPA gets better from the drug. We are involved in clinical trials, exploring the potential effectiveness of drugs other than TPA. We are also looking at other drugs that can be co-administered together with TPA they magnify its effects in improving outcomes from stroke.

Certainly one of our goals for treatment when a patient is hospitalized at Shands Jacksonville is to help them reduce their risks of a second stroke. A good part of our nursing efforts with relationship to patient care on the floor dedicated to educating our patients in ways that they can reduce their risk of having a second stroke. Certainly as neurologists, we make recommendations regarding blood thinners such as aspirin, clopidogrel or warfarin that may reduce the risk of a secondary stroke. But we also are intent on educating our patients about the importance of stopping cigarette smoking, eating a proper diet to reduce their cholesterol levels, and stressing the importance of exercising.

It would be wonderful if there were no strokes, and stroke in many ways can be prevented. The key caveat to preventing strokes is regular medical check up with a primary care physician. Four of the major risk factors for stroke can be detected on a simple physical examination. Those include high blood pressure, diabetes, high cholesterol and irregular heart rate called atrial fibrillation. Cigarette smoking is a very modifiable risk factor. We know that if people stop smoking, their risk of having a stroke comes back to that of a nonsmoker within three to five years of them stopping cigarette use.

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We do have a monthly stroke support group; we call it Stroke Busters. It's a group of former patients and even people from the community who were never cared for here at Shands who meet monthly to learn more about ways to help reduce their risk of stroke and also to periodically receive some research updates on stroke. It also offers them an outlet to discuss some of the stresses of being a stroke survivor and support each other emotionally.

Within the Comprehensive Stroke Program at Shands Jacksonville, we have the people, processes and programs that are designed to help ensure our patients have the best possible outcome following a stroke.