

Special points of interest:

- Intracerebral hemorrhage (ICH) is the second most common form of stroke (15-30% of all strokes) and the most deadly.
- The rate of first strokes in blacks is almost double that of whites, and strokes tend to occur earlier in life for blacks than whites.
- Cardiovascular disease, including both heart disease and stroke, is the leading cause of death for Hispanic women.

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Intracerebral Hemorrhage (ICH) in Adults



Lorenzo F. Muñoz, MD

Intracerebral hemorrhage (ICH) is the second most common form of stroke (15-30% of all strokes) and the most deadly. Its incidence increases significantly after 55 years of age. It is more common in men and in the US it affects blacks more than whites which may be related to a higher incidence of hypertension in that patient population. Other risks factors are hypertension, alcohol consumption, street drugs, and clotting deficiencies as those seen with anticoagulation and liver dysfunction. Most ICH (50%) occur in the basal ganglia. 10-32% are described as lobar hemorrhages because they primarily incorporate the occipital, temporal, frontal, and parietal lobes. Lobar hemorrhages may have a more favorable outcome than deep seated bleeds.

In general, the neurologic symptoms of ICH progress over minutes to hours. This is different from embolic/ischemic strokes where the deficits are maximal at onset. Headache may often be the first and most prevalent symptom. Rebleeding, which is accompanied by neurological deterioration, is seen in about a third of patients between one to three hours but decreases with time. In fact, rebleeding may follow a satisfactory surgical removal of the clot even after bleeding has stopped. Swelling around the clot may cause delayed deterioration. This may be due to some toxins that may be released from the clot since the mass effect from the bleed, by itself, is often insufficient to account for such changes around the lesion.

A CT scan can readily demonstrate an acute clot as a high density within the brain tissue. The clot volume will impact prognosis. An MRI is usually not the procedure of choice for the initial study.

While a common neurosurgical emergency, some controversy exists about the surgical treatment of ICH. Although surgery may decrease the morbidity from rebleeding, mass effect, and swelling, it rarely causes significant neurological improvement. For instance, one randomized prospective study found lower mortality for patients with a GCS ranking score of 7-10 treated surgically. However, the survivors in this group were severely disabled and none were independent. Rush University Medical Center is currently participating in an international multi-institutional study to investigate if the minimally invasive instillation of clot busting medications into the clot could yield better results.

Thus, the decision to operate must be highly individualized based on the patient's neurological condition, size and location of the hematoma, age, and the family's wishes regarding what may be heroic measures. For example, lesions with marked mass effect ought to be removed given their potential for brain herniation. Similarly, those lesions deemed to be causing significant symptoms from their mass effect, as opposed to the actual tissue destruction from the clot, should also be removed.

As Rush University Medical Center continues to move forward, our care team will undoubtedly also continue to evolve so that the institution remains at the leading edge of addressing these challenging cases.

Lorenzo F. Muñoz, MD

Reference: Handbook of Neurosurgery, 7th Edition

www.rush.edu/stroke

Stroke education: Minority women and stroke

One half of all black women will die from stroke or heart disease.

Blacks are twice as likely to die from a stroke as whites. The rate of first strokes in blacks is almost double that of whites, and strokes tend to occur earlier in life for blacks than whites. Additionally, black stroke survivors are more likely to become disabled and experience difficulties with daily living and activities.

The statistics are staggering — in fact, blacks are more impacted by stroke than any other racial groups within the American population.

Why?

Not all of the reasons are clear why blacks have an increased risk of stroke. Some risk factors play a major role. Blacks have a higher rate of the following:

High blood pressure

The number one risk factor for stroke, and 1 in 3 blacks suffer from high blood pressure.

Diabetes

People with diabetes have a higher stroke risk.

Sickle cell anemia

The most common genetic disorder amongst blacks. If sickle-shaped cells block a blood vessel to the brain, a stroke can result.

Smoking

Risk for stroke doubles when you smoke. If you stop smoking today, your stroke risk will immediately begin to decrease.

Obesity

Adopting a lower-sodium (salt), lower-fat diet and becoming more physically active may help lower blood pressure and risk for stroke.

If a person has one or more of these risk factors, it's even more important to learn about stroke symptoms. Below are a few tips to help guide you:

- Learn about stroke risk by reading the latest stroke prevention guidelines.
- Download and complete National Stroke Association's Stroke Risk Scorecard, which can be discussed with a doctor, who can advise on ways to change lifestyle or prescribe medications to help lower stroke risk.
- Learn about stroke symptoms and how to respond to them by calling 911. Remember that stroke strikes FAST and you should too.



Interesting Facts:

1. Blacks have twice the mortality from stroke compared with whites.
2. Blacks have more severe and disabling strokes compared with whites.
3. Black women have a lower 1-year survival following ischemic stroke (caused by a blood clot) compared with whites.
4. Blacks have twice the risk of first ever strokes compared with whites.

5. Among those aged 20 to 44 years of age, blacks are 2.4 times more likely to have a stroke compared with whites.
6. Blacks are significantly less likely to receive tPA, the only FDA-approved treatment for stroke, compared with whites.

Hispanic-American Women

Cardiovascular disease, including both heart disease and stroke, is the leading cause of death for Hispanic women. Stroke is the third leading cause of death for Hispanic women. In fact, 33 percent of all deaths in Hispanic women are due to stroke, according to the website womenshealth.gov. Studies show that Hispanics suffer from strokes at a much earlier age than whites. The average age for all strokes among Hispanics is 67, compared to 80 for whites. Medical conditions frequently seen in Hispanics, such as pre-diabetes, diabetes, high blood pressure and obesity, are known risk factors for stroke. Up to 30 percent of the Hispanic population has type 2 diabetes, and up to half of these cases are untreated because people do not realize that they have the disease.

For more information, please visit www.strokeassociation.org/strokeorg

Meet our newest members



Katharina M. Busl, MD, is an assistant professor in the Department of Neurological Sciences at Rush University Medical Center. She received her medical degree with high honors from Technical University of Munich in Germany. After medical internship at Caritas St. Elizabeth's Medical Center/Tufts University in Boston, Dr. Busl completed her neurology residency in the Harvard Neurology Residency Program at Massachusetts General Hospital and Brigham and Women's Hospital in Boston. After completing her chief resident year, she stayed at Massachusetts General Hospital and Brigham and Women's Hospital for a fellowship in neurological critical care and vascular neurology.

Her interests include intracerebral hemorrhage, subarachnoid hemorrhage, subdural hemorrhage, stroke, traumatic brain injury, infections of the brain, and intracranial pressure management. She is currently a master's degree candidate in clinical research at Rush University. Dr. Busl is board-certified in neurology and board eligible in neurocritical care.



Valerie M. Toll, MSN, RN, ACNP-BC, is an acute care nurse practitioner for Michael Chen, MD, in the Neuroendovascular Services Section of Cerebrovascular Disease and Neurologic Critical Care. She received her master of science in nursing degree from Rush University. Valerie's background as an emergency room staff nurse at both, West Suburban Medical Center and Rush University Medical Center, has exposed her to variety of patient populations and disease entities; with her main area of interest being neurologic critical care.



Did you know?

Although stroke can happen to anyone at any time, regardless of race, sex or age, approximately 55,000 more women than men have a stroke each year. And blacks have almost twice the risk of first-ever stroke compared with whites.

**We're on
the Web!**

www.rush.edu/stroke

Upcoming events

Life After Stroke Information Class

Join us for a group offering support and information for survivors, caregivers and people affected by stroke. A support team of a physician, nurse and case manager will provide education and coping techniques for the changes that occur after stroke.

When: Second Tuesday of each month from 1 to 2 p.m.
Where: Rush University Medical Center, Kellogg Building
1650 W. Harrison St., Room 835, Chicago
Please note: We are combining Life After Stroke and the Stroke Information group into one class.

For stroke specific questions, please call our stroke educator, Yulonda Lundy, RN, at (312) 563-2983.



To schedule an appointment with one of our stroke specialists, please call (312) 942-3636.



Earning the Gold Seal of Approval, the Stroke Program at Rush has been certified by the Joint Commission as a primary stroke center. This certification recognizes hospitals that make exceptional efforts to foster better outcomes for stroke care. Specialists at Rush in stroke, other cerebrovascular conditions and neurological critical care provide care for people with cerebrovascular disorders in both the inpatient and outpatient settings.

PLEASE NOTE: All physicians featured in this publication are on the medical staff of Rush University Medical Center. Some of the physicians are in private practice and, as independent practitioners, are not employees or agents of Rush University Medical Center.

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