Treatment guidelines updated for aneurysmal subarachnoid hemorrhage

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Patients who are diagnosed in the emergency room with a specific type of brain bleed should be considered for immediate transfer to a hospital that treats at least 35 cases a year, according to a new scientific statement from the American Heart Association/American Stroke Association.

The Guidelines for the Management of Aneurysmal Subarachnoid Hemorrhage (aSAH) is published online in *Stroke,* an American Heart Association Journal. It updates guidelines issued in 2009.

"Admission to high-volume centers has been associated with lower disability and death," said E. Sander Connolly, Jr., M.D., chair of statement writing group.

Research indicates 30-day death rates were significantly higher in low-volume facilities: 39 percent in hospitals admitting less than 10 patients compared to 27 percent in hospitals treating more than 35 patients each year.

"While the reasons for this association are not completely clear, patients admitted to high-volume facilities have increased access to experienced cerebrovascular surgeons and endovascular specialists, as well as multidisciplinary neuro-intensive care services, such as EEG monitoring to rule out non-convulsive status seizures," said Connolly, who is also the vice-chairman of neurological surgery at Columbia University in New York and the co-director of the neurosciences intensive care unit at New

York-Presbyterian Hospital.

Aneurysmal subarachnoid hemorrhage occurs when a weakened blood vessel (aneurysm) deep within the brain expands out like a balloon then ruptures, causing bleeding into the space around the brain. It is responsible for about 5 percent of all strokes and affects more than 30,000 Americans each year, most of them between ages 40 and 60 years old.

Prevention recommendations still center on controlling hypertension, avoiding cigarette smoking and avoiding excessive alcohol consumption.

Aneurysms can be treated by a microsurgical procedure to seal the damaged portion of the blood vessel with a clip, or a less invasive procedure from within the vessel by placing a number of detachable metal coils within the aneurysm. Both techniques have been shown to prevent re-bleeding of the aneurysm in most cases.

Some of the other 21 new recommendations include:

- Between onset of aSAH symptoms and treatment of the aneurysm, blood pressure should be controlled with an agent to balance the risk of stroke and hypertension-related re-bleeding, and to maintain cerebral perfusion pressure.
- Unless there is a compelling contraindication, follow-up imaging after coiling or microsurgical clipping of an aneurysm should be delayed, and strong consideration should be given to retreatment if the remnant is growing.
- Experienced cerebrovascular surgeons and endovascular specialists should determine a multidisciplinary treatment approach based on characteristics of the patient and the aneurysm.

While the statement urges physicians "to use these guidelines as merely the starting point for doing everything possible to improve the outcomes of patients with aSAH," Connolly urges people to act quickly if symptoms appear.

The classic symptom of aSAH is a severe headache that develops suddenly ("thunderclap headache"), and is often accompanied by vomiting, confusion, loss of consciousness and sometimes seizures.

"Most people do not recognize when aSAH is occurring, and anyone who experiences the 'worst headache of your life,' should get to the closest ER immediately," Connolly urged.

Provided by American Heart Association