Anemia may more than triple your risk of dying after a stroke

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Being anemic could more than triple your risk of dying within a year after having a stroke, according to research presented at the American Stroke Association's International Stroke Conference 2012.

"Among stroke patients, severe anemia is a potent predictor of dying throughout the first year after a stroke," said Jason Sico, M.D., lead researcher and an assistant professor of neurology at Yale University School of Medicine in New Haven, Conn.

Anemia is a common condition in which the body does not have enough healthy red blood cells.

Without red blood cells to carry oxygen throughout the body, fatigue, shortness of breath, rapid heartbeat and other symptoms can occur.

Previous research has shown anemic people who have a heart attack, heart failure or kidney disease are more likely to die within a year. Only a few small studies have focused on the link between stroke and anemia-related death.

Researchers reviewed medical records of 3,750 men treated for a first ischemic stroke at 131 Veterans Health Administration facilities in 2007. Ischemic stroke, the most common type of stroke, occurs when a blood vessel to the brain is blocked.

Compared to stroke survivors who were not anemic:

- Patients with severe anemia were 3.5 times more likely to die while still in the hospital and 2.5 times more likely to die within a year.
- Stroke survivors with moderate anemia were twice as likely to die within six to 12 months after a stroke.
- People with mild anemia were about 1.5 times more likely to die within six to 12 months after a stroke.

Anemia is measured by hematocrit, the percentage of red blood cells in the blood.

In the study, a healthy hematocrit ranged from 38 to 42 percent; 33 to 37 percent was considered mild anemia; 28 to 32 percent was moderate anemia; and 27 percent or below indicated severe anemia.

Researchers tracked whether stroke patients died in the hospital at 30 days, 60 days and at one year, based on how anemic they were in the hospital.

To establish an independent association between anemia and the risk of dying, researchers eliminated patient factors that could alter the results. These included age, stroke severity, stroke risk factors, vital signs, lab results and how healthy patients were before and after the stroke.

Based on the results, stroke patients with anemia and their doctors should be aware of the increased risk of death and treat any modifiable causes for anemia, Sico said.

Anemia may be related to nutritional problems or blood loss in the stomach or intestines. Severe anemia may be treated with blood transfusions; however, studies have not been performed to see how safe

and effective a blood transfusions are for someone hospitalized with an ischemic stroke.

"Regularly seeing your primary care physician is important. If blood tests show someone has anemia, working with one's doctors to figure out the cause is important," Sico said.

The research is ongoing and Sico hopes to determine within the next year which types of anemia are associated with higher risks. Because this study looked only at men, future studies will need to determine the impact of anemia on women after a stroke, particularly since anemia may behave differently in women.

A possible explanation for the relationship between stroke and anemia in men is that during an ischemic stroke, anemia disables the brain's blood vessels from responding properly to the blood pressure change, Sico said. Another possibility, he said, is that people with anemia often have other conditions associated with a higher stroke risk, such as heart disease and kidney disease.

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