Mixed results on early human testing of iron chelation after brain bleed

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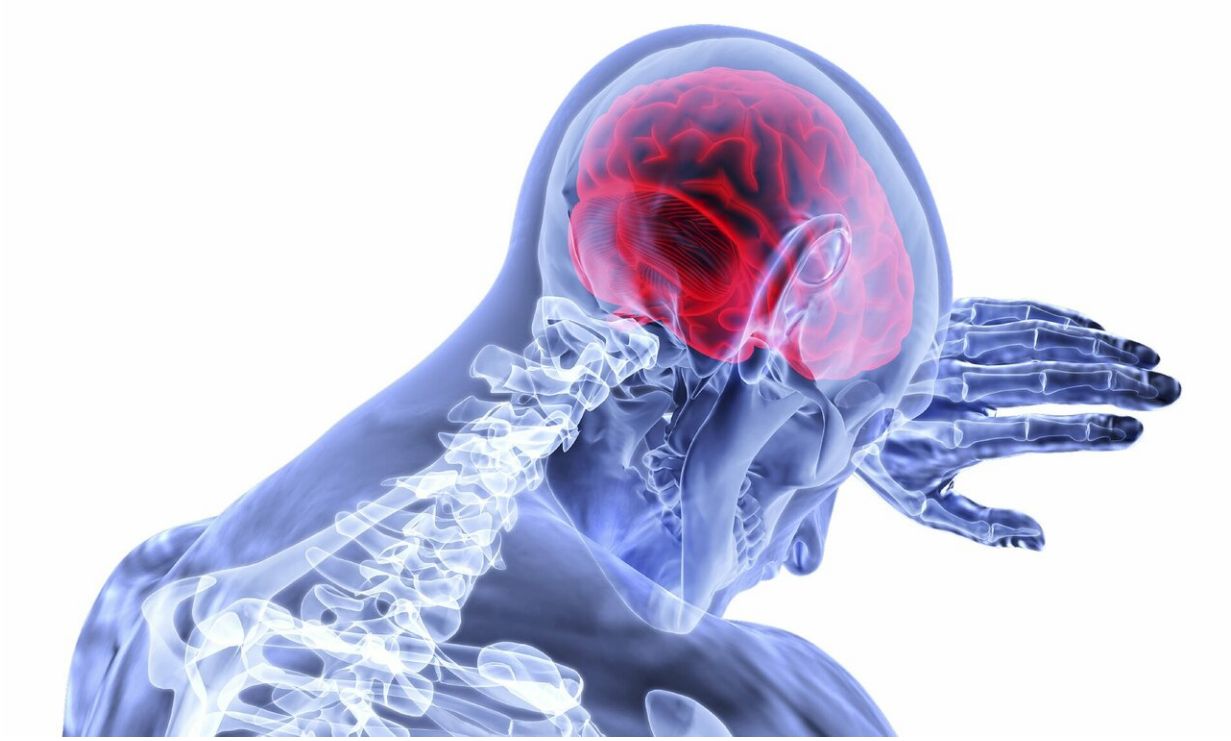

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A drug that removes excess iron and toxins from the body after a brain bleed did not show significant improvement in recovery or neurological function at three months after intracerebral hemorrhage (stroke), but showed some benefits at six months, according to late breaking science presented at the American Stroke Association's International Stroke

Conference 2019, a world premier meeting for researchers and clinicians dedicated to the science and treatment of cerebrovascular disease.

The breakdown of blood after a brain hemorrhage releases toxic byproducts including iron, which damages the surrounding brain tissue. In animal research, deferoxamine – a drug which removes iron from the body (a process known as iron chelation) – improves recovery and neurological function.

The Intracerebral Hemorrhage Deferoxamine (iDEF) Trial is a multicenter double-blind, randomized, placebo-controlled trial conducted at 42 U.S. and Canadian centers. Researchers examined the safety of deferoxamine and whether the drug holds sufficient promise to improve outcome after brain hemorrhage before conducting a large trial to determine its treatment effectiveness. The study enrolled 291 patients (average age 60, 38 percent women) within 24 hours of a brain bleed.

Researchers noted:

High doses of deferoxamine (62 milligram per kilogram of body weight per day) were toxic to the lungs and were associated with increased incidence of a condition called adult respiratory distress syndrome which leads to a buildup of fluids in the lungs and decreased oxygen levels in the blood, but intermediate doses (32 milligram per kilogram of body weight per day) were safe and well tolerated.

The primary result showed that the use of intermediate doses of deferoxamine for three days after brain hemorrhage did not sufficiently improve recovery and neurological function at three months, but patients who received the drug seemed to have better outcomes after six months from the onset of brain hemorrhage in secondary analyses.

"We saw improvement in recovery between three to six months in both

the deferoxamine and placebo treatment groups which suggests that recovery after brain hemorrhage takes a long time, and that it may be better for future studies to consider examining the effects of potential treatments at six months or perhaps later to fully determine the full effects of these treatments," said Magdy Selim, M.D., Ph.D, professor of neurology at Harvard Medical School and chief of the Division of Stroke and Cerebrovascular Disease at Beth Israel Deaconess Medical Center in Boston. "We are reviewing our data carefully to determine if we should conduct a large trial to examine the effectiveness of deferoxamine in improving outcomes at six months after a brain hemorrhage."

Provided by American Heart Association