Vampire-inspired blood thinner begins new round of trials

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(PhysOrg.com) -- Just in time for Halloween, University of Wisconsin School of Medicine and Public Health physicians have begun testing an experimental blood thinner that mimics a chemical in vampire-bat saliva.

The UW Health Comprehensive Stroke Center is one of 32 locations worldwide taking part in a new stage 3 clinical trial of desmoteplase, a genetically engineered drug aimed at treating stroke.

It is based on an enzyme that vampire bats secrete to thin the blood of their victims and keep it from clotting as the bats feed. Its name comes from the Latin name for vampire bats, Desmodus Rotundus.

The University of Wisconsin recently enrolled its first patient in the Efficacy and Safety Study of Desmoteplase to Treat Acute Ischemic Stroke (DIAS-4) Study, says Dr. Matthew Jensen, a UW Health stroke neurologist, who heads the UW branch of the trial. The study is being done at UW Hospital and Clinics.

The drug can extend the window of medical treatment for stroke patients up to nine hours after stroke onset. The current gold standard for stroke treatment, rTPA, can only be given for up to four and one-half hours, because after that it has not been shown to be effective, and it can cause bleeding in the brain.

Desmoteplase may be safer, and stroke specialists have been waiting for a drug to help those who arrive at the hospital too late for the

conventional clot-busting medicine.

Jensen notes that the UW stroke team takes calls from around the state from doctors who are looking for help for patients who arrive too late for standard treatment. This trial offers additional options for some of those people.

Results from earlier trials have been mixed, so it is hoped that DIAS 4 will settle the question of which patients can most benefit from the drug, says Jensen.

In an ischemic stroke, a blood clot blocks circulation to part of the brain, and after some hours without oxygenated blood, the affected brain tissue begins to die. But Jensen explains that some patients have enough collateral circulation via minor blood vessels that their injured brain remains salvageable for longer.

Physicians at UW Hospital will use MRI (magnetic resonance imaging) and CT angiograms to find stroke patients who are better candidates.

Provided by University of Wisconsin-Madison