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Clot-buster boosts survival, decreases disability for deadly subset of stroke

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New results from a multicenter study led by Johns Hopkins show that patients who got an experimental clot-busting treatment for a particularly lethal form of stroke were not only dramatically more likely to survive but also continued to shed lingering disabilities six months later. The findings, announced at the International Stroke Conference in San Diego on Feb. 19, are likely to build support for the use of tissue plasminogen activator (tPA) in patients with intracranial hemorrhage, a treatment-resistant form of stroke marked by brain bleeding.

Last May, study leader Daniel Hanley, M.D., professor of neurology at the Johns Hopkins School of Medicine, and his colleagues reported early findings among 52 intracranial hemorrhage (ICH) patients treated with tPA given by catheter directly into patients' brains to bathe and destroy blood clots with this clot-busting agent. The researchers worked with patients at 38 study sites scattered throughout the United States, as well as Canada, Germany and Finland.

The treatment, developed by Hanley's team, gives low doses of tPA over several days after strokes involving intracranial hemorrhage. This drug normally isn't recommended for conditions that involve bleeding, such as ICH, because it can increase the risk of further hemorrhage. However, since tPA is effective at breaking up clots in other conditions, such as heart attacks and other types of strokes, Hanley and his colleagues have been studying its safety and efficacy for treating ICH.

Early results from this study using information collected 30 days after

tPA treatment showed that about 80 percent survived, compared to data from previous studies showing that about 80 percent of untreated ICH patients die. In the new study, the researchers report on the patients' progress six months after treatment using assessments for overall levels of disability as well as their skill in accomplishing specific tasks often affected by stroke, such as dressing, bathing or walking.

The researchers found that about 10 percent of patients had no lingering disability after six months. Another 40 percent had only mild to moderate disability and were independently caring for themselves at home by 180 days, but required assistance with everyday tasks such as lifting heavy objects. Even patients who were initially more severely disabled continued to improve months after treatment, with the majority scoring lower on disability assessments after six months compared to the same assessments taken at 30 days.

"We're painting a pretty good picture for quality of life after our treatment for ICH," Hanley says. "Survival doesn't have to mean just getting by—we're showing that it can mean truly living again."

Hanley adds that patients, families, physicians and ethicists worry deeply about the impact of stroke treatments that keep patients alive but leave them with a sharply curbed quality of life. "Our new treatment appears to greatly increase patients' chances for survival and quality of life similar to what they experienced before they had their stroke," he says.

Intracerebral hemorrhage, or ICH, causes blood to pool and clot inside the brain's interior cavities, building up pressure within the brain. The higher pressure, along with inflammation caused by chemicals in the trapped blood, can irreversibly damage the brain, usually leading to death or extreme disability.

Hanley and colleagues, with a clinical planning grant from the National

Institute of Neurological Diseases and Stroke will design a pivotal test to assess the value of tPA therapy on a much larger group of ICH patients. They expect to start this clinical trial imminently.

Source: Johns Hopkins Medical Institutions