

AANS: Stem cells may aid stroke patients

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(HealthDay)—Intraparenchymal transplantation of human modified bone marrow-derived stromal cells in chronic stroke patients is safe, feasible, and results in improved neurologic function, according to a study presented at the annual meeting of the American Association of Neurological Surgeons, held from April 5 to 9 in San Francisco.

Gary K. Steinberg, M.D., Ph.D., from Stanford University in California, and colleagues conducted a two-center open-label safety, dose escalation feasibility study in the first North American trial of intraparenchymal transplantation of bone marrow-derived cell therapy (six each with 2.5M, 5M and I0M cells) for chronic [stroke patients](#) (18 individuals; 18 to 75 years old; six to 60 months post subcortical middle cerebral artery [ischemic stroke](#)).

The researchers found that over the course of follow-up (more than six months in 16 patients and more than 12 months in 12 patients) there

were three serious adverse events (SAEs) related to the surgery, but not to the cells (seizure, subdural hematoma, pneumonia), and two SAEs unrelated to either surgery or cells ([urinary tract infection](#), delayed new [neurologic symptoms](#)). There were no changes in cytokine levels, human leukocyte antigen antibody levels, and peripheral blood mononuclear cell function. Assessment scales (National Institutes of Health Stroke Scale, European Stroke Scale, Fugl-Meyer) all showed a significant benefit in neurologic outcomes. Within 24 hours of surgery, two patients showed remarkable improvement in their motor function, effects which have been sustained during follow-up (20 months and five months).

"Although this was primarily a safety study, we found a significant recovery of neurologic function in patients overall at six months that is sustained at one year," Steinberg said in a statement.

Several authors disclosed financial ties to the medical device and regenerative medicine industries.

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