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Hospitals vary in monitoring and treatment of children with brain injury, reports study in Neurosurgery

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Hospitals vary in management of children with traumatic brain injury—particularly in monitoring and preventing the harmful effects of increased intracranial pressure (ICP), according to a study in the November issue of *Neurosurgery*, official journal of the Congress of Neurological Surgeons.

The November *Neurosurgery* also reports on unusual language side effects in patients undergoing electrical brain stimulation for obsessive-compulsive disorder (OCD), and presents plans for a pilot study of a new vaccine therapy for patients with aggressive brain cancers called gliomas.

Variations in Management of Child Brain Injury

Dr. William Van Cleve of University of Washington, Seattle, and colleagues analyzed data on more than 7,000 children with moderate to severe brain injury treated at 156 US hospitals over seven years. The study focused on two evidence- based interventions for brain injury: ICP monitoring, done to measure pressure within the skull; and craniectomy, a surgical procedure to prevent or relieve excessive pressure.

Overall, about 27 percent of children had ICP monitoring, while 12 percent underwent craniectomy. Rates of both interventions varied significantly between hospitals. Children treated at combined pediatric adult/trauma centers were one-fifth less likely to undergo ICP

monitoring, compared to those at adult-only centers.

The variation remained significant after adjustment for other factors. The researchers call for further studies to understand "the institutional and regional factors associated with variability in the use of these invasive but potentially outcome-modifying technologies."

Brain Stimulation for OCD Leads to 'Foreign Accent Syndrome'

A. Rosaura Polak, MSc, of University of Amsterdam, Academic Medical Center and colleagues report on an unusual effect of deep brain stimulation in two Dutch patients with OCD. Now commonly used for Parkinson's disease, brain electrical stimulation has also emerged as a new treatment for treatment-refractory OCD that doesn't improve with medications. In both patients, OCD symptoms improved with brain stimulation.

However, there were also some unexpected language-related side effects. Both patients began speaking in a different accent, either in an accent that was common in their native region or with a more distinguished pronunciation. The changes were similar to a rare "foreign accent syndrome" reported in stroke patients.

Other changes included a more "aggressive vocabulary," such as swearing; and "hypomanic" behaviors, such as hyperactivity and excitability. In both patients, the language changes persisted after adjustment to the brain stimulation patterns. The results suggest that deep brain stimulation for OCD "influences not only mood and behavior but also linguistically related circuitry," the researchers write.

Plans for Trial of New Vaccine for Recurrent

Gliomas

John Goldberg and colleagues of University of Miami Miller School of Medicine outline plans for a clinical pilot study to assess a "dendritic cell vaccine" for patients with gliomas that recur after surgery. The vaccine consists of the patients' own immune cells, mixed with fragments of destroyed tumor cells.

The goal of the vaccine is to stimulate the patients' own immune system to attack the tumor cells. Similar dendritic cell vaccines have shown promising results in previous studies—in one small study, one-third of patients were alive and free of brain cancer at five years' follow-up.

Before vaccination, patients will receive an approved topical medication (imiquimod) that appears to promote immune activity of dendritic cells. The authors plan to enroll 20 patients over two years. If the results show promising effects on patient survival with acceptable side effects, it will pave the way for larger studies of approaches using dendritic cell vaccines to reduce the risk of recurrence after surgery for glioma.

Provided by Wolters Kluwer Health

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