

Following traumatic brain injury, balanced nutrition saves lives

July 2 2008

Clinician-scientists from NewYork-Presbyterian Hospital/Weill Cornell Medical Center are suggesting an immediate and important change to guidelines used in the care of patients with traumatic brain injury (TBI). The researchers say that following TBI, patients should be given nutritional supplementation through a gastric feeding tube as soon as possible, which they say can improve their chances of survival by as much as four-fold.

The evidence shows that the body heals better when it is given proper nutrition, not just the bare minimum that keeps someone alive," says lead author Dr. Roger Härtl, a noted neurological surgeon at NewYork-Presbyterian/Weill Cornell, and the Leonard and Fleur Harlan Clinical Scholar and assistant professor of neurological surgery at Weill Cornell Medical College. "Before now, patients were required to have nutritional supplementation within the first week following their injury, but our findings suggest that this is simply not soon enough."

The study's findings are published in this month's issue of the *Journal of Neurosurgery*.

This is the largest study to ever look at the issue of nutrition and survival following TBI. The research team followed survival outcome and nutritional care in 797 patients from 2000-2006.

"The past recommendations were based only on common clinical observations and a very small study of only about 60 patients," says Dr.

Härtl. "These new recommendations will be added to a widely used TBI handbook, 'Guidelines for Management of Severe Traumatic Brain Injury,'" published by the Brain Trauma Foundation.

To formulate their findings, the research team recorded the length of time it took for each patient to receive gastric nutrition and how many calories they ingested. After controlling for factors like age, high blood pressure, brain pressure, prior neurological and cardiac conditions, and CT scan results shortly after the time of injury, the researchers found that the earlier each patient received a feeding-tube, and the more calories they ingested, the better their likelihood for survival.

Without gastric feeding within the first 5-7 days of suffering their injury, patients had a two- and four-fold higher likelihood of death, respectively. Also, the study reports that every 10kcal/kg decrease in caloric intake was associated with a 30% percent increase in mortality rate.

The best outcomes for patients with TBI were observed when patients received a minimum of 25kcal/kg each day. Alarming, the researchers found that as many as 62 percent of the patients studied never met this level of caloric intake.

"I think these findings say a lot about using what we know from basic research and applying the knowledge directly to the care we give to patients," says Dr. Härtl. "For a long time, clinicians thought that intravenous fluids were enough -- based on anecdotal situations and some basic biochemical knowledge -- but now we know that this level of care is not meeting the actual requirement the body needs to repair itself following extreme trauma."

Source: New York- Presbyterian Hospital

Citation: Following traumatic brain injury, balanced nutrition saves lives (2008, July 2) retrieved 30 April 2024 from

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