

Intraoperative Awareness Linked To Posttraumatic Stress Disorder

04 Mar 2010

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Patients with confirmed episodes of consciousness during surgery have high rates of psychological problems including posttraumatic stress disorder (PTSD), even several years after the incident, reports a study in the March issue of *Anesthesia & Analgesia*, official journal of the International Anesthesia Research Society (IARS).

Another study finds that patients with very deep anesthesia shown on brainwave activity monitoring are at increased risk of heart attack, stroke, and death. The studies add important new evidence for the debate over the use of brainwave monitoring to prevent intraoperative awareness while avoiding the side effects of excess anesthesia.

Several Years after Intraoperative Awareness, a High Risk of PTSD

Recent years have seen a flood of new devices to monitor brainwave activity during surgery. "Deep anesthesia is associated with an increase in side effects and slow recovery, so anesthesiologists try to keep patients just on the 'asleep' side of a grey zone that separates unconsciousness from consciousness," comments Dr. Steven L. Shafer of Columbia University, Editor-in-Chief of *Anesthesia & Analgesia*. "There is scientific and clinical debate whether the anesthesiologist can trust these new devices enough to give the patient less drug, as opposed to simply pouring in enough anesthetic to be assured the patient is asleep."

In the landmark "B-Aware" study, including nearly 2,500 patients, a technique called bispectral index (BIS) monitoring significantly reduced the risk of confirmed intraoperative awareness. There were two cases of awareness in patients undergoing BIS monitoring, compared to 11 of those operated on without monitoring.

One of the new studies evaluated the long-term consequences of intraoperative awareness. Five years after the episode, seven of the 13 "B-Aware" patients with intraoperative awareness were still alive, and underwent a battery of psychological tests. The results were disturbing, including a 71 percent rate of PTSD (compared to 12 percent of a group of closely matched control patients). Dr. George Mashour notes in an accompanying editorial, "This high rate of severe long-term psychological sequelae reinforces the need for preventing intraoperative awareness."

"Intraoperative awareness is obviously a terrible outcome, and clearly we need to do everything we can to prevent it," Dr. Shafer adds. "Should awareness occur despite our best efforts, we must engage the patient in a program of psychological rehabilitation to reduce these long-term consequences."

Increased Long-Term Risks after Deep Anesthesia

A separate study of "B-Aware" patients evaluated the relationship between brainwave monitoring data

and the long-term risks after surgery. Five years later, patients who had low levels of brainwave activity during their operation-reflecting deep anesthesia-had a 40 percent increase in the risk of death. Patients who had deep anesthesia were also at twice the risk of heart attack and three times the risk of stroke.

Although other recent studies have reached similar conclusions, the idea that deep anesthesia increases the long-term risk of death has been controversial. In an accompanying editorial, Dr. Jiro Kurata of Kyoto University, Japan, writes, "The impact of deep hypnosis on the prognosis of surgical patients must await a future randomized controlled trial that controls for other predictive factors."

Dr. Shafer comments, "Studies are underway to answer the critical question of whether deep anesthesia causes long term injury, or simply unmask a pre-existing condition that leads to increased mortality."

Source

The International Anesthesia Research Society
Anesthesia & Analgesia

References:

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International Anesthesia Research Society. "Intraoperative Awareness Linked To Posttraumatic Stress Disorder." *Medical News Today*. MediLexicon, Intl., 4 Mar. 2010. Web. 9 Nov. 2012. <<http://www.medicalnewstoday.com/releases/181124.php>>

APA

International Anesthesia Research Society. (2010, March 4). "Intraoperative Awareness Linked To Posttraumatic Stress Disorder." *Medical News Today*. Retrieved from <http://www.medicalnewstoday.com/releases/181124.php>.

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