

# 3<sup>rd</sup> International Conference on Surgery and Anesthesia

November 17-19, 2014 Chicago, USA



*Alex Bekker*

Rutgers New Jersey Medical School, USA

## Postoperative cognitive decline in the elderly

Postoperative cognitive dysfunction (POCD) is a condition characterized by deterioration of cognitive performance after surgery presenting as impaired memory and/or concentration. POCD has been reported in 20-60% of patients several months after cardiac surgery and approximately 10% at three months after non-cardiac surgery. Perioperative physiological derangements, anesthetics, duration of surgery, respiratory complications have been suggested as possible causes, but only age and limited education has proven to be consistent risk factors in most studies. Current research suggests that patients with preoperative cognitive impairment are at higher risk for POCD because of their already compromised status and their potential vulnerability to worsen into dementia due to a less cognitive reserve. Analysis of Alzheimer's Disease Neuroimaging Initiative (ADNI) database found that elderly subjects who undergone surgery experienced a more pronounced atrophy in hippocampal and Gray Matter volume than did nonsurgical (control) patients over a similar time frame. However, only those in the surgical cohort who had baseline mild cognitive impairment (MCI) showed cognitive decline measured by a commonly used definition of POCD. Most researchers studying a link between surgery and cognitive changes believe that the future research in the area of POCD should focus on identifying subgroup of patients who are at risk for this complication. It is more likely that subjects with MCI, atherosclerosis, diabetes mellitus and other chronic diseases would respond differently to surgery induced inflammatory response. Further studies are required to determine the benefit of immune system modulation by anti-inflammatory agents and, possibly, anesthetics.

## Biography

Alex Bekker is Professor and Chairman of Anesthesiology at Rutgers New Jersey Medical School. He obtained his Doctoral Degree in Engineering from the New Jersey Institute of Technology and received his Medical Degree from the Rutgers – New Jersey Medical School. He completed his anesthesia training at Columbia Presbyterian Medical Center in New York. He joined the Department of Anesthesiology at the NYU Medical Center in 1995 and was appointed a Vice-Chair for Research in 2005. He is internationally recognized expert in neuroanesthesia and is frequently invited to speak at Grand Rounds and Scientific Panels. He has been active in research and for many years. He is an author of 65 peer reviewed publications, 6 US patents, 33 educational reviews and more than 100 abstracts. His work has focused on perioperative brain protection, neuroinflammation, postoperative pain control and clinical pharmacology. He was a PI of numerous clinical trials, including studies sponsored by the National Institute of Aging. He serves on the editorial board of the Journal of Neurosurgical Anesthesiology and is an ad hoc reviewer for 15 peer-reviewed journals, including NEJM, Anesthesiology, Neurosurgery, PLoS One, and Anesthesia and Analgesia.

[bekkeray@njms.rutgers.edu](mailto:bekkeray@njms.rutgers.edu)