

Preliminary data on the Effect of Anaesthesia and Surgery in Patients with Impaired Pre-Operative Cognition-The first 15 patients.

Lisbeth Evered, Brendan Silbert, David Scott

Centre for Anaesthesia and Cognitive Function, Department of Anaesthesia, St. Vincent's Hospital, Melbourne, Australia

Postoperative Cognitive Dysfunction (POCD) is identified as subtle changes from baseline in neuropsychological function following surgery and anaesthesia. POCD has been widely described in both cardiac and non-cardiac surgical settings. Up to 42% of patients are affected five years after cardiac surgery¹, and following non-cardiac surgery POCD occurs in approximately 25% of patients at one week and 10% of patients three months after surgery². This study will identify if patients with impaired baseline cognition are at an increased risk of suffering POCD, in a pilot group of patients. Previous studies have excluded patients with impaired cognitive function and restricted the study group to those with normal preoperative screening cognition.

Methods: 15 of 50 patients aged 50 years or more, with a Mini Mental State Examination (MMSE) score less than 26 and scheduled for elective left heart catheterisation or elective Total hip Joint replacement (THJR) surgery completed neuropsychological assessments at baseline, and one week and 3 months following intervention as part of the ASPECT Study, designed to assess the impact of intervention on cognition. Patients were classified POCD when they declined more than one standard deviation, in one or more tests of five tests, compared to the group mean baseline score.

Results: One week post intervention 28% of patients were classified with POCD, and at 3 months 20% of patients were classified with POCD. Comparative rates in patients without baseline cognitive impairment are 25% and 10% respectively².

Conclusions: These results suggest patients with impaired baseline cognition suffer POCD at a greater incidence than in patients with normal baseline cognition. Given the high incidence of POCD in patients with normal baseline cognition, this may have significant implications for the treatment of patients presenting to hospital with cognition already impaired. |

1. Newman, M.F., et al., *Longitudinal assessment of neurocognitive function after coronary-artery bypass surgery*. N Engl J Med. 2001. **344**(6): p. 395-402.
2. Moller, J.T., et al., Long-term postoperative cognitive dysfunction in the elderly. ISPOCD1 study. ISPOCD investigators. International Study of Post-Operative Cognitive Dysfunction. Lancet, 1998. 351(9106): p. 857-61.