Influence of depth of anaesthesia on postoperative cognitive dysfunction (POCD) and inflammatory marker

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Postoperative Cognitive Dysfunction (POCD) can occur following all surgeries even after minor procedures in patients at risk. The signs and symptoms are commonly subtle and may become noticeable over time. POCD presents more discrete as compared to the early postoperative delirium commonly showing fluoride symptoms causing huge frustration and consuming a lot of resources at general ward. The POCD symptoms may not be apparent until the patient is discharged from hospital and tries to resume normal activities. The patient may then discover problems with recalling recent events, attention and reaction time. This deterioration can have serious consequences on their ability to work or manage activities of daily living.

In this thesis, we found that the EEG-based guided depth of anaesthesia (DOA) monitoring reduces consumption of anaesthetics and opioids during surgery, allows a faster postoperative recovery, and reduces the occurrence of cognitive impairment the first day after surgery and decrease inflammatory response after eye surgery. We found also an association between perioperative DOA, cognitive impairment and an increased inflammatory response after surgery. The interest and knowledge about assessment and management of neurocognitive side-effects before and after anaesthesia was found to be low among anaesthesiologists and nurse anaesthetists. They were critical about the benefits of the DOA monitoring. Swedish anaesthesiologists and nurse anaesthetists need to improve their knowledge of assessment and management of cognitive dysfunction.