

*Danu Soesilowati*

Department of Anesthesiology and Intensive Care, Faculty of Medicine, Diponegoro University, Semarang, Indonesia

**Address for Correspondence: [serviceheb@gmail.com](mailto:serviceheb@gmail.com)**

Dementia is becoming increasingly prevalent among the elderly population. In 2001, ~24 million people worldwide were afflicted with dementia, and that number is estimated to double to an estimated prevalence of 42 million by 2020 and 81 million by 2040. Dementia is challenging from a medical care perspective since it is both progressive and irreversible. Additionally, dementia is a leading cause of admission to long-term care facilities and a major risk factor for hospitalization. Alzheimer's disease (AD) is the most common form of dementia, and it constitutes approximately two-thirds of all cases. It is currently hypothesized that the pathophysiology of AD involves the accumulation of amyloid beta (A $\beta$ ) proteins and the hyperphosphorylation of tau proteins, which leads to neurofibrillary tangles and neuronal loss in the brain. Elderly patients who are exposed to general anesthesia have a 35% higher risk of developing dementia, researchers from INSERM and University of Bordeaux, France, reported at Euroanaesthesia, the annual congress of the European Society of Anaesthesiology (ESA). Some research has compared patients having a general anaesthetic with patients having a regional (local anaesthetic) for the same operation. These studies have shown that the number of patients who develop POCD is similar for both types of anaesthetic, but that delirium may be less common after a regional anaesthetic. So a regional anaesthetic may decrease the risk of some post-operative problems. Other studies have looked at different methods of general anaesthesia, using inhaled versus intravenous anaesthetic drugs for example, and have shown no difference in the incidence of POCD. Postoperative cognitive dysfunction or POCD, could be associated with dementia several years later. Recognition of POCD is essential in perioperative management of elderly patients. At present the precise causes of POCD and post-operative delirium are unknown, and it is likely that there are multiple causes.

**Keywords:** anesthesia, surgery, dementia, POCD

## References

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