

# Faktor Risiko Terjadinya Postoperative Cognitive Dysfunction pada Pasien Geriatri yang Menjalani Pembedahan Umum untuk Operasi Nonkardiak dan Non-neurologik di RSCM Kajian terhadap: usia, lama pembedahan, operasi berulang dan jenis operasi = Risk factors of Post Operative Cognitive Dysfunction (POCD) in general anesthesia patients undergo noncardiac and non neurological procedures. Study for age, length of procedure, duration of anesthesia, secondary surgery and type of surgery

Anggun Permata Sari, author

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## Abstrak

**Latar Belakang.** POCD merupakan penurunan fungsi kognitif pasca pembedahan yang banyak ditemukan pada usia tua. Respon stres dari prosedur pembedahan dan agen anestesi yang lama dianggap memengaruhi homeostasis dan status kognitif yang bermanifestasi dengan munculnya POCD. Namun, etiologi dan patofisiologi mekanisme POCD hingga saat ini masih kontroversial. Oleh karena itu, peneliti ingin mengetahui faktor risiko terjadinya POCD pada pasien usia lanjut yang menjalani operasi non kardiak dan non neurologik di RSCM.

**Metode.** Penelitian merupakan penelitian kohort prospektif, menilai pengaruh usia, lama anestesi, pembedahan berulang, dan jenis pembedahan terhadap penurunan fungsi kognitif pada 108 pasien geriatri (60 tahun) yang menjalani anestesi umum untuk bedah nonkardiak non-neurologik. Penelitian menggunakan uji fungsi kognitif berupa RAVLT, TMT, dan *Digit span test*. Dikatakan terdapat POCD jika terdapat penurunan fungsi kognitif pascaoperasi sebanyak 20% pada minimal 2 tes fungsi kognitif.

**Hasil.** Terdapat 57,4% kejadian POCD pasien geriatri yang menjalani operasi non kardiak dan non neurologik. Angka POCD pada usia tua (60-69 tahun) 55,7%, dan yang sangat tua (>70 tahun) hanya 65%; operasi minor 57,8%; serta riwayat pembedahan berulang 58,8%. Sebagian besar prosedur operasi berdurasi singkat (<240 menit) dengan POCD sebanyak 58,1%. Tidak terdapat perbedaan bermakna untuk setiap variabel terhadap angka kejadian POCD.

**Simpulan.** Terjadi perubahan berupa penurunan fungsi kognitif pascabedah (POCD) pada pasien geriatri yang menjalani anestesi umum untuk operasi nonkardiak dan non-neurologik di RSCM sebesar 57,4%. Akan tetapi tidak dipengaruhi oleh tingkat usia, lama pembedahan >4 jam, riwayat pembedahan berulang, dan jenis pembedahan.

**Kata Kunci.** POCD, geriatri, faktor risiko, non-kardiak, lama operasi, operasi mayor, minor, berulang

**Background.** POCD is deterioration in cognitive function after surgery that is many found in elderly. Stress response from surgical procedures and anesthetic agents is thought to affect homeostasis and cognitive status that manifests with the appearance of POCD. However, the etiology and pathophysiology of the POCD is still controversial. Therefore, researchers want to know the risk factors for POCD in elderly patients who undergo non-cardiac and non-neurologic surgery at RSCM.

**Method.** The study was a prospective cohort study, assessing the effect of age, duration of anesthesia, repeated surgery, and type of surgery on cognitive impairment in 108 geriatric patients (60 years) who underwent general anesthesia for non-neurologic noncardiac surgery. The

study used cognitive tests such as RAVLT, TMT, and Digit span tests. POCD definition is reduction in postoperative cognitive function by as much as 20% at a minimum of 2 cognitive tests.

**Results.** There was 57.4% POCD of geriatric patients who underwent non-cardiac and non-neurological surgery. POCD numbers at old age (60-69 years) 55.7%, and very old (> 70 years) only 65%; minor surgery 57.8%; and repeated surgery 58.8%. Most operating procedures are short duration (<240 minutes) with POCD as much as 58.1%. There were no significant differences for each variable on the incidence of POCD.

**Conclusion.** The rate of Post operative cognitive dysfunction (POCD) in geriatric patients undergoing general anesthesia for noncardiac and non-neurological surgery at RSCM were 57.4%. However, it is not affected by age level, length of surgery, repeated surgery, and type of surgery.

**Keywords.** POCD, geriatrics, risk factors, non-cardiac, length of operation, major, minor, secondary surgery.