

Editorial

Polypharmacy and Perioperative Management

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Recent years brought a remarkable improvement of surgical and anesthesia techniques focusing on patient safety during perioperative period.

A rapid growing number of aging population requiring elective orthopedic, urological, and cardiac surgeries raised the concern of proper perioperative management associated with multiple comorbidities and polypharmacy [1].

Polypharmacy is defined as concomitant use of five or more medications (Jorgensen, Johansson, Kennerfalk, Wallendar, & Svardsudd). Prescription polypharmacy is estimated to be currently at 12 % in the adult population.

Optimizing the patient management for surgery and anesthesia requires optimization of the patient's medication regimen. A structured perioperative assessment of surgical patients based on specific guidelines related to psychotropic drug use automatically triggers interdisciplinary consultations. A large inter-practice variability revealed from survey studies and systematic review of articles should be a target for quality improvement studies [2].

Psychotropic and neurologic medications are often overlooked in patients undergoing surgery. These medications have a great prevalence among patients and may have impact on the postoperative neurocognitive function and therefore the overall postoperative outcome.

Acute centrally acting (CNS) drug withdrawal could be an important confounding factor when evaluating postoperative and long-term outcome. Clinical depression or acute psychosis may develop after acute withdrawal of regular antidepressants or benzodiazepines [3]. The same study mentioned two cases of perioperative Sinemet withdrawal associated with immobility and chest complications due to Parkinson's disease [3].

Few articles tried to propose guidelines for psychotropic drug use in the peri-operative period because of a reduced level of evidence, based on case reports and non-systematic reviews [1].

The conclusions may be contradicting when evaluating risks and benefits of abrupt discontinuation versus continued administration throughout the perioperative period.

Huyse et al. proposed guidelines for lithium, monoamine oxidase inhibitors – MAOIs, tricyclic antidepressants – TCAs, selective serotonin reuptake inhibitors – SSRIS, and antipsychotics with the intent of stimulating a pre-surgical risk assessment of patients with a history of CNS drugs use [1].

A recent article published by the Cleveland Clinic reviewed the increased and underreported use of herbal medications by up to 1/3 of surgical patients [4]. The common misperception that herbals are “natural” and safe leads to perioperative complications including increased bleeding (ginkgo biloba), increased sedative effect of anesthesia (Kava), myocardial infarction (ephedra) or drug-drug interactions via induction of CYP 450 enzymes (St. John's Wort) [5].

Alzheimer's disease patients undergoing elective surgeries may present behavioral disturbances after abrupt cessation of memantin [6]. According to recent studies, donepezil, because of its longer half-life and its synergistic action with succinylcholine, should be discontinued 2 to 3 weeks prior surgery [7].

The perioperative use of older (phenytoin, carbamazepine, and phenobarbital) and newer antiepileptics (levetiracetam and gabapentin) showed a safe profile [8].

The spectrum of CNS medications and corresponding conditions is wide and uniform guidelines regarding their perioperative management do not exist. Every psychotropic drug has to be investigated separately as to whether it should be discontinued or continued in the perioperative period including the exact timing and what the possible interactions with anesthesia are.

As long as little is known about CNS drugs acute withdrawal on the day of surgery, there is a need for future studies to investigate the impact of this abrupt discontinuation, perioperative management and patient's outcome withstanding the surgical stress.

Collaborative efforts integrating a multidisciplinary team – primary care providers, internal medicine, psychiatrists, anesthesiologists, pain specialist and surgeons are necessary to create common guidelines for perioperative CNS drugs management.

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