

Editorial

Polypharmacy and Perioperative Management

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Received: November 29, 2013; **Accepted:** December
15, 2013; **Published:** January 03, 2014

Keywords: *polypharmacy*; psychotropic drugs; perioperative drug
management.

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 co-
morbidities 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 peri-
operative 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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