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# Judicious Benzodiazepine Administration for Older Patients with Preoperative Anxiety

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**1.Abstract**

In this Pro-Con commentary article, we discuss the risks and benefits of giving older patients with preoperative anxiety benzodiazepines. The pro side starts by emphasizing how important it is to treat anxiety before surgery and how benzodiazepines are the best way to do so. The opposing argument made by the opponents is that there are numerous options for treating anxiety before surgery without simultaneously raising the risk of devastating complications like postoperative delirium. Both sides call for more high-quality studies to find the best ways to reduce preoperative anxiety in older people, improve outcomes, and cut down on morbidity. Preoperative anxiety is emotionally distressing, and patients desire anxiolytic medications and the support of their anesthesiologist in coping with the anxiety.[1,10] This may be why preoperative benzodiazepine administration to older patients remains commonplace despite many multidisciplinary clinical guidelines recommending avoidance.[11–13] In fact, recent studies have shown that 38% to 65% of older patients received benzodiazepines during anesthesia care.[14,15] The recommendation to avoid pre Postoperative delirium is the most common complication in older patients and is associated with severe outcomes such as prolonged hospitalization, functional decline, institutionalization, mortality, a worse cognitive trajectory after surgery, and the development of dementia.[16–19] Recent research has questioned whether preoperative benzodiazepine administration for anxiolysis is associated with increased delirium.[20] Unfortunately, there is a lack of high-quality evidence to determine whether a single dose of a preoperative benzodia Based on the current state of the literature, we discuss two opposing arguments for and against the judicious administration of benzodiazepines for preoperative anxiolysis in older patients in this Pro-Con commentary article. Pro: Preoperative Benzodiazepines for Anxiolysis in Older Patients Should Be Given Carefully There Are Good Reasons to Give Preoperative Benzodiazepines to All Older Patients. One recent study showed that the majority of patients find anxiety emotionally distressing and desire the support of the anesthesiologist in coping with the anxiety.[1] Another study showed that the majority of patients desired anxiolytic medication whether or not they perceived themselves as anxious.[10] Our subsequent argument details the lack of evidence that a single, preoperative anxiolytic benzodiazepine when given judiciously causes harm. Untreated preoperative anxiety is associated with significant morbidity, including increased We explain in detail why appropriate treatment of high anxiety offers significant benefits and why alternative anxiolytic methods may not be suitable for all patients.

**Connection Between Preoperative Benzodiazepine and Postoperative Ridiculousness in More established Grown-ups**

The American Geriatrics Society (AGS) in 2015 and the European Culture of Anaesthesiology in 2017 gave the primary postoperative ridiculousness rules that suggested the act of benzodiazepine evasion in more established patients.[21,22] Nonetheless, the nature of the logical proof legitimizing such proposals was low.[21,22] These proposals depended on the consideration of benzodiazepines on the 2012 AGS Brews Models list because of proof of mischief found in patients who take benzodiazepines consistently and the relationship between long haul preoperative use and clinic delirium.[23,24] The Lagers Standards presents a rundown of possibly unseemly drugs regularly refreshed by the AGS, where the prescriptions may not be the most secure or most Con: Benzodiazepines should be avoided in older patients who are anxious before surgery. Doctors weigh the risks and benefits of a treatment with and for their patients based on scientific evidence. We acknowledge that anxiety before surgery is linked to actual and undesirable outcomes. Nevertheless, the current state of the literature does not support a benefit that outweighs the risk of administering benzodiazepines to older surgical patients for anxiety. Our contention underneath subtleties why the “supportive of benzodiazepine” studies might not have legitimacy for more established careful patients. Additionally, there is a dearth of evidence regarding the advantages of benzodiazepines for older adults. Postoperative delirium, on the other hand, is the most common complication in older surgical patients and is associated with severe outcomes such as an increase in morbidity and mortality, a prolonged stay in the hospital, functional decline, institutionalization, and a significant increase in cost. A recent study showed that postoperative delirium is associated with the development of posttraumatic stress disorder, another long-term consequence for older surgical patients.[51] Given the magnitude and severity of incident

postoperative delirium, combined with limited treatment options, we argue that anesthesia providers should do everything in their power to decrease the risk of delirium, including avoiding perioperative benzodiazepines for anxiolysis. Delirium is an independent risk factor for a worse cognitive trajectory after surgery, as well as We advise anesthesiologists to: (1) investigate the root of preoperative anxiety in elderly patients; and (2) employ one of the many safer methods for managing preoperative anxiety as needed.

**Connection Between Preoperative Benzodiazepine and Postoperative Ridiculousness in More established Grown-ups**

While the proof areas of strength for is midazolam increments ridiculousness in the ICU, we recognize that the proof in the postoperative wooziness writing isn't as clear. Midazolam's postoperative delirium rate was compared to that of other sedative and anesthetics in a recent network meta-analysis. 39 trials and 5991 participants made up the study; Participants who were at least 65 years old comprised more than half of the sample population. Midazolam was linked to a significantly higher risk of postoperative delirium than placebo (odds ratio [OR], 2.62; The 95 percent confidence interval (CI) is 1.07–6.43. Dexmedetomidine, on the other hand, had a lower risk of postoperative delirium compared to placebo (OR, 0.44; ketamine (OR, 0.30; 95 percent CI, 0.30–0.64), as well as 95% CI, 0.09–0.99).[52]A recent study examined a national dataset to determine the effect of midazolam on postoperative outcomes in order to address the lack of population-level data on perioperative midazolam use in orthopedic surgery. They discovered that more than 75% of the nearly 3 million total knee and hip arthroplasty patients received midazolam perioperatively. The adjusted OR for in-hospital falls increased when midazolam was administered. Additionally, the adjusted odds of postoperative delirium, naloxone use, and pulmonary complications were significantly increased when midazolam and gabapentinoids were used concurrently.[53] Although our colleagues' argument in favor of preoperative benzodiazepines will point to recent research that suggests no association between preoperative midazolam and postoperative delirium, the cited studies do have some limitations. The use of benzodiazepines during the immediate postoperative period was not examined by the European BioCog project. Instead, they looked at the connection between delirium and a group of long-term home medications, such as antibiotics, platelet inhibitors, and sedatives. Any reasonable person would agree that this study was not intended to assess the act of involving benzodiazepines for preoperative tension. We use the term "association" and note that the study was a secondary analysis of three pooled data sets. Another group specifically addressed midazolam used as a premedication and its association with postoperative delirium[20]. A single assessment from 9 a.m. to 12 p.m. on the first two postoperative days was all that was collected for delirium in this study. As a result, it is highly likely that cases of delirium were not diagnosed, which could have skewed the results of the study. We agree and eagerly await these crucial results as the authors acknowledge this limitation and refer us to a recently completed RCT to provide the definitive answer.[26]

A 2016 Cochrane review found no high-quality evidence that midazolam reduced preoperative anxiety compared to placebo.[54] Additionally, the majority of studies that examined the relationship between preoperative anxiety and postoperative outcomes excluded older adults. There is a lack of literature on the topic of the benefits of preoperative benzodiazepines for older adults. For instance, lorazepam premedication was found to have a shorter time to extubation and a lower rate of early cognitive recovery in two randomized, placebo-controlled clinical trials [55,56]. These studies also found that lorazepam premedication did not improve postoperative quality of recovery or patient satisfaction. However, these trials were conducted on patients younger than 70 years old, so their results may not apply to older patients. It is important to note that the studies cited by our pro-benzodiazepine colleagues only included patients under the age of 60.[3–9] When taking into account the diverse older surgical population, it is possible that patients with subtle preexisting conditions like frailty or cognitive impairment will be even more sensitive to benzodiazepines than younger patients. Although we did not find studies directly comparing preoperative anxiety in older versus younger populations, there are conditions where older surgical patients are known to have a different postoperative course than their younger counterparts, including postoperative pain and postoperative nausea and vomiting.[57,58] In a study of patients with an average age of 78 years undergoing cataract surgery with topical anesthesia, a double-blind controlled clinical trial found that intravenous midazolam did not significantly reduce pain or anxiety compared to topical an

There Are Safer Options for Older Surgical Patients with Preoperative Anxiety While preprocedure anxiety is said to be common, its severity varies. We recognize that a few more seasoned grown-ups may without a doubt be restless before medical procedure. Luckily, anesthesiologists have numerous nonpharmacologic and pharmacologic systems for anxiolysis past benzodiazepines. The first step is to build trust between the patient and the doctor. A recent meta-analysis found that psychological preparation for surgery, including providing information and relaxation techniques, may be beneficial for postoperative pain outcomes.[63] Several groups found that showing patients an informational video at the preoperative clinic visit effectively managed preoperative anxiety.[64] Patients who were shown a video had decreased anxiety at multiple time points, including immediately preoperatively and postoperatively.[65] Patients may need education about their condition, the procedure, and the anesthetics. We might discover that the most anxiety-inducing concern is simple to address if we ask the patient about it. For instance, a lot of patients want to know if they will be awake when the urinary catheter is inserted. According to one study, older patients were anxious the day before surgery due to a lack of anesthesia knowledge. As perioperative physicians, we are able to acknowledge the patient's anxiety, normalize their feelings, and provide the opportunity for questions. Their primary concerns were failure to awaken after surgery and postoperative pain[66].

In a recent systematic review, nonpharmacologic approaches to anxiety management prior to surgery were examined. An RCT compared intravenous midazolam with music through noise-canceling headphones

in patients undergoing preoperative nerve block placements. The authors came to the conclusion that music, aromatherapy, and acupuncture effectively reduced both preoperative anxiety and postoperative pain in women undergoing breast cancer surgery[67]. In a study evaluating the effects of chewing gum with fasting on preoperative anxiety, gynecologic surgery patients were randomized to either the conventional fasting group or the chewing gum with fasting group.[44] A clinical trial of patients (n = 159) scheduled for surgery with general anesthesia found that patients who received nature sounds or relaxation exercises the day before surgery had significantly decreased preoperative anxiety compared to the nonintervention control group.[68] The gum group had significantly less preoperative anxiety than the control group, and there was no significant difference between the groups in the gastric fluid analysis.[69] Anxiety that does not respond to nonpharmacologic treatment may need to be treated with medication. A 2020 Cochrane Survey observed that melatonin was more gainful for preoperative tension than placebo.[35] a similar audit found comparative anxiolysis when preoperative melatonin was contrasted with benzodiazepines. Ondansetron, acetaminophen, gabapentin, or opioids are common oral premedications, even though oral melatonin must be taken several hours before the procedure. Alpha-2 agonists like dexmedetomidine can also alleviate preoperative anxiety and can be continued during the procedure, as demonstrated in a recent study of patients undergoing carotid stent procedures.[72] Some cardiovascular effects, such as a decreased heart rate, may actually be beneficial, particularly for patients with coronary artery disease. Preoperative beta-blockers were found to have benefits for antianxiety in several earlier studies.[70,71]

**We Suggest Evasion of Midazolam in More established Grown-ups**

While we Anticipate Geriatric-explicit Examinations Regardless of numerous multidisciplinary clinical rules recommending they are avoided,[11-13] preoperative benzodiazepine use stays high in many practices in the US. When limiting the question to patients 65 and older, 57% received a benzodiazepine during anesthesia care in one large academic health system for patients 50 and older undergoing major, noncardiac surgery.[14] Midazolam was administered perioperatively to more than 38% of patients 65 and older undergoing inpatient, noncardiac surgery at another large academic hospital.[15] This is a significant amount of use of a drug with very serious potential risks. We agree that benzodiazepines like midazolam are appealing due to their short duration, rapid onset, and amnesic effects. Midazolam, on the other hand, does not outweigh the risks. We need evidence that (1) older adults are significantly anxious prior to surgery despite other strategies and (2) midazolam is not associated with delirium before we can recommend its use. Numerous different drugs and devices assist more established careful patients with managing tension. According to a recent study, 59% of patients with preoperative anxiety would appreciate support from an anesthesiologist in coping with their anxiety. [1] As perioperative physicians, anesthesiologists must consider our capacity to do more than just administer medications to comfort our older patients.

In conclusion, we are of the opinion that giving a benzodiazepine to an older adult prior to surgery is hardly necessary. The majority of patients receive little benefit, and there is a possibility of serious side effects. Let's say that treating a senior patient with a benzodiazepine is deemed necessary. In that case, it is essential to think about lowering the dose for this patient group in comparison to a younger group, just as we do for other anesthetics. At last, for the individuals who will keep controlling midazolam to more seasoned careful patients, we propose that patients ought to be taught about likely secondary effects, including mental disability, respiratory concealment, and amnesia. Like that, the patient can go with an educated choice and choose to renounce the medicine.

**4. Conclusions**

The continued use of perioperative benzodiazepines in elderly surgical patients, despite the growing number of published clinical guidelines recommending their avoidance, was the impetus for this pro- and con-article. Anaesthesiologists must evaluate their patients and weigh the advantages and disadvantages of any anxiolytic strategy, as outlined in both arguments. The Table provides an outline of the arguments as a whole. Last but not least, all of the authors call for high-quality research into the most efficient method for administering anxiolysis to patients, enhancing outcomes and decreasing morbidity.

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