

Effectiveness of Midazolam Reducing Anxiety after Premedication in Clinical Practice in Local Hospital Setting

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Abstract: Premedication is the administration of medication before anesthesia. It is used to prepare the patient for anesthesia and to help provide optimal conditions for surgery. In premedication, Sedative premedication is widely administered before surgery. From many drugs midazolam has been used extensively worldwide for pharmacological premedication. After many data and examination analysis it was found that midazolam is very effective drug for premedication with no side effect.

Keywords: Premedication, Anesthesia, Midazolam

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I. Introduction

Premedication is using medication before some other therapy (usually surgery or chemotherapy) to prepare for that forthcoming therapy.^[1] Typical examples include premeditating with a sedative or analgesic before surgery; using prophylactic (preventive) antibiotics before surgery; and using antiemetic or antihistamines before chemotherapy. Now-a-days premedication with sedative drugs is often used in pediatric practice as one of the modalities to reduce preoperative anxiety in children undergoing surgery.

Sedative premedication is a successive practice in pediatric anesthesia administrations. It has been appeared to lessen tension in the kids and their folks at the time they are taken to the working room, the pain relieving necessities, and the time required for breathed in acceptance and orotracheal intubation. The utilization of pharmacological premedication has appeared to be more practical for controlling uneasiness when contrasted and the utilization of non-pharmacological means, for example, the nearness of the guardians amid acceptance, or behavioral readiness programs before surgery. Midazolam has been utilized widely for pharmacological premedication, with sufficient results.

Table 1: Common drug for premedication

Drugs	Doses mg/kg
Ketamine	PO 2-10 IV .25-1.0 - IM 1-4.0
Chloral Hydrate	PO: 25-100
Promethazine	PO 0.1-1.0
Midazolam	PO 0.25-0.75 - Intranasal 0.1-0.
Diazepam	PO 0.1-0.4

PO: Per OS. IM: Intramuscular.

At the Red Cross Kids' College Clinic in Manizales, an aggravated planning has been utilized since 2000, comprising of a blend of midazolam ampoules 15mg/3ml or more acetaminophen suspension 150mg/5ml. At the establishment, the blend is known as "midazophen", and after it is readied it comprises of midazolam

1mg/ml and acetaminophen 24mg/ml. The measurement utilized is a large portion of the body weight in cubic centimeters, which is equivalent to 0.5mg/kg of oral midazolam and 12mg/kg of acetaminophen. The dosage is offered orally to patients booked for elective surgery.^[2]

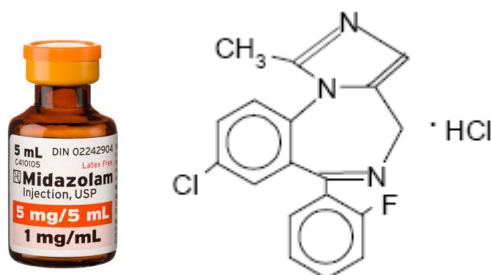


Fig 1a & 1b: Midazolam and its structure

Objectives

The goal of the study is to examine the effect of midazolam together with acetaminophen in premedication. The specific objectives of the study are:

- Expressive examination is to survey the adequacy of premedication
- Measuring the level of uneasiness in the youngsters.
- To identify the level of sedation acquired at the season of breathed in enlistment.

I. Method

The inclusion criteria:

- patients, under 8 years of age, scheduled for elective surgery or diagnostic procedures requiring anesthesia,
- Patients who prescribed anxiolytic premedication with midazolam by the anesthesiologist. The presence of a known malignancy or of a mental disease was considered as an exclusion criterion.

Study area: At local hospital in Bangladesh a prospective descriptive observational study was undertaken with 200 pediatric patients scheduled for surgical or diagnostic procedures requiring anesthesia

Techniques:

- During the preoperative assessment, the anesthesiologist gathered demographic information aside from the usual information for the anesthesia record.
- the patients were assessed by the attending anesthetist, and given the modified Yale scale.
- Patients were taken on a stretcher to the operating room, and after setting up basic monitoring, inhaled induction was initiated using sevoflurane. At that point (1min), the Richmond-RASS sedation-agitation scale was applied.
- A characterization of the population, social and demographic data was performed for the statistical analysis, using descriptive statistical tools. The social, demographic, medical and anesthetic variables included in the form were correlated with the outcome variables of sedation efficacy using the Chi-Square test.

II. Results and Discussion

The sample collected included 200 patients ranging between 6 months and 8 years of age. Of these, 31.5% (68) were females and 68.5% (148) were males. The application of the Yale scale showed adequate sedation and anxiolytics in 61.6% of the patients. It is worth noting that at the time of the evaluation, the time elapsed between the moment the drug was given until the scale was applied was within an ideal range (15-90min) only in 25% of the children. Moreover, of the 55 patients in whom the administration interval was appropriate, 60% were found to be anxious, and 40% were not anxious.

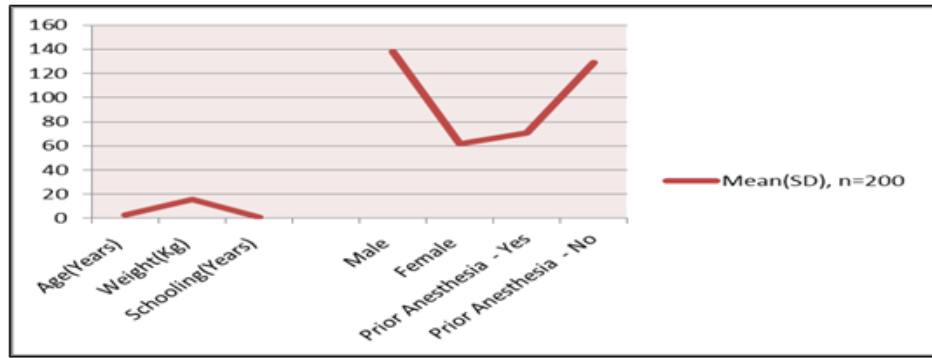


Fig 2: Demographic characteristics of the patients

Table-2: Comparison between Emotional Expressivity & Interaction with relatives

Emotional expressivity	Interaction with relatives
Happy	Has fun, sits still
Neutral with no visible expression	Seeks contact with relatives
Sad, worried	Looks at relatives quietly, does not seek contact
Apparent state of arousal	Activity
Aroused, looks around confidently	Curious, plays in the room
Quiet, withdrawn	Does not explore, sits close to relatives
Cries and does not want others near	Pushes with hands and feet and tries to get away

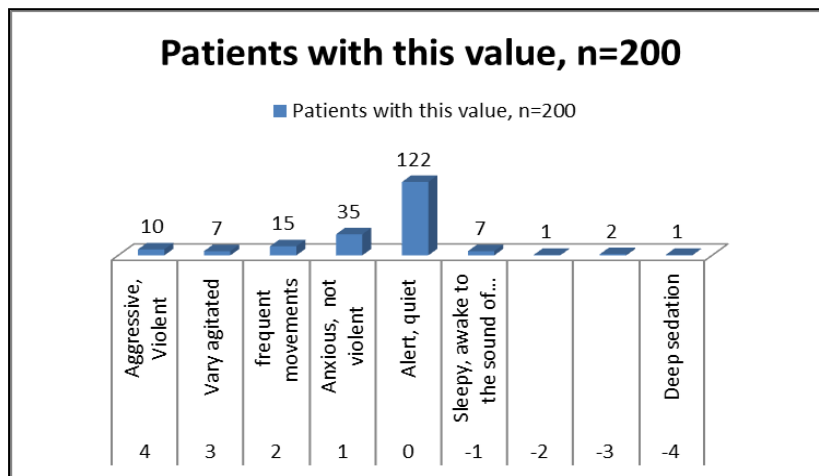


Fig4: Data shows on sedation and anxiety scale

When the sedation-anxiolytics scale was applied at the time the children were separated from their parents, it showed that 61% (122) of the children were indifferent or quiet. At this stage, there was no evaluation of the time elapsed from the moment the midazolam-acetaminophen mix was given. The Richmond-RASS scale applied at the time of induction showed that 64.5% (129) of the patients had adequate sedation (score between -1 and 0), which resulted in easy and quiet acceptance of the facemask.

Table 3: Details about Emotional expressivity

Emotional expressivity
Separation from parents: Crying, Indifferent, Quiet.
Richmond-RASS scale: Aggressive, violent, Frequent movements Moderate sedation. Opens eyes, does not fix gaze, Deep sedation, does not respond to voice but does respond to physical stimulus, Very deep sedation, does not respond to physical stimulus

III. Discussion

For obtaining adequate sedation, one of the most effective pharmacological strategy is midazolam which one of the drugs of choice because of ease of administration, safety, good bioavailability when given orally, and because it does not delay emergence from anesthesia or the time to discharge from the recovery unit^{[3][4][5]}

Reducing perioperative anxiety must be one of the most important objectives in pediatric anesthesia, because anxiety has been associated with postoperative adverse events such as increased pain and negative behavioral changes, including psychomotor agitation at emergence, crying, disorientation, post-operative

delirium, sleep disorders and avoidance behaviors in medical and hospital environments. The modified Yale scale was applied prior to separation from the parents, in the waiting room, in order to assess the presence or absence of anxiety at that point in time, and anxiety was found in 61.6% of patients. This might be explained because the time elapsed between the administration of oral midazolam and that point in time was not adequate in most case.

Another moment that might be traumatic and stressful for the child and might create psychological sequelae is anesthetic induction with the use of a facemask. In this study found that 70.4% of the patients showed good acceptance of the anesthetic induction, with good tolerance of the facemask; these results are similar to those reported by other authors. Intravenous midazolam combined with other drugs such as fentanyl and protocol has been used for deep sedation in patients taken to magnetic resonance imaging. Oral midazolam together with acetaminophen might probably be a good and safe option in less complex, non-painful diagnostic tests.^{[6][7][8]}

IV. Conclusion

From result and discussion It is clear that, premedication with compounded midazolam plus acetaminophen used at the Manizales Children's Hospital is useful. It reduces anxiety at the time when the children are separated from their parents, and it leads to good acceptance of inhaled anesthesia induction, improving the whole experience, both for the children as well as for the parents.

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