

# Premedication in an autistic, combative child: Challenges and nuances

### ABSTRACT

Children with autistic spectrum disorders are often encountered in anesthesia practice mainly for outdoor procedural sedation or anesthesia in endoscopy and magnetic resonance imaging suites. We describe a case of a 7-year-old autistic boy who required management of dental caries. He had a phobia to intravenous cannulation, displayed increasing anxiety and became combative on the day of surgery. With parental involvement and distraction, we succeeded in giving oral midazolam by concealing it, with the intent of avoiding intramuscular injection or unnecessary restraint. Lack of knowledge about the medical condition of such a patient can lead to inadequate preoperative preparation and use of restraint on the patient, which might cause anxiety or panic attacks in the operative room. To effectively manage children with special needs one needs to have clear guidelines on the management of uncooperative children, involve parents perioperatively, plan ahead with an emphasis on perioperative analgesia and sometimes incorporate the ethical use of restraint.

**Key words:** Autism; inhalational induction; premedication; restraint

### Introduction

Autistic spectrum disorders (ASDs) are less studied and often neglected in pediatric anesthetic practice.<sup>[1]</sup> Endoscopies, colonoscopies, ear tube placement, sedation for radiology and dental procedures are all common procedures that require anesthesia in such children. They present a challenge to the pediatric anesthetist right from taking consent to recovery from general anesthesia. Lack of knowledge about the medical condition of the patient can lead to inadequate preoperative preparation and use of unwanted restraint which may cause anxiety or panic attacks in the operative room. Sometimes traditional modes of premedication like oral midazolam or ketamine may not be feasible, forcing the anesthetist to look for other alternatives.<sup>[2,3]</sup> The case report

describes aspects of anesthetic concepts, highlights potential risk factors and suggests tools to help prevent adverse events from anesthesia in children with ASDs.

### Case Report

A 7-year-old, 20 kg boy presented to the dental outpatient department with complaints of a tooth ache in the lower molar and retained primary front teeth. The patient was a known case of autism, mental retardation and hyperactive seizure disorder with delayed developmental milestones. His dental examination revealed carries in the lower premolars. Owing to his uncooperative behavior, the child was posted for dental treatment under general anesthesia and was sent to us for a preanesthetic check-

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up. History revealed a very severe phobia to intravenous (IV) cannulation and hospital personnel owing to a hospitalization 2 years back following diarrhea. The patient was examined seated on the mother's lap. He was inattentive, did not respond to verbal commands and made undefined gestures. He had unclear speech and was hyperactive with repetitive movements. The rest of the systemic examination was normal. The Patient was posted for surgery the next day after explaining fasting advice and taking written informed consent.

Having experienced a similar situation before, the mother warned us about the difficulties we might encounter in obtaining IV access. We instructed her to give oral midazolam syrup to the patient an hour prior to the scheduled surgery in the preoperative room in the presence of a nurse or medical personnel. However, the boy refused to take the syrup. We thus encountered a restless, agitated boy in the morning, not willing to enter the operation theater. IV cannulation seemed out of the question and intramuscular ketamine would have required an unnecessary amount of restraint. As the case was not an emergency, and there was fortunately no rush from the operating staff, we decided to back off and try an alternative approach. The crying and agitated boy was consoled by the mother and intelligently made to drink midazolam syrup (0.5 mg/kg) from a glass with which he was familiar, after his mother drank a similar colored liquid to avoid suspicion. After being adequately sedated in around 20 min, the boy was then carried by his mother to the operating room (OR) while being allowed to carry his favorite toy with him. Once in the OR the child was induced with sevoflurane as the mother held the child while the assistants established basic monitoring in the form of pulse oximetry and electrocardiogram and another established IV access which was easily obtained. After the mother was sent out of the OR, the airway was secured by nasal intubation and the rest of the anesthetic course was uneventful. Recovery from anesthesia was smooth with no postoperative emergence delirium or agitation. Patient was covered with a blanket and sent to the postoperative ward where he regained consciousness in his mother's lap.

## Discussion

Autism is a behavioral disorder characterized by qualitative impairment in social interaction, communication and imagination, with decreased interest and often stereotyped repetitive behavior and mannerisms. Based on the severity of the symptoms ASDs are grouped into autism, pervasive developmental disorder-not otherwise specified and Asperger syndrome.<sup>[4,5]</sup>

Autistic children are known to have behavioral problems such as aggressive behavior, self-injury, temper tantrums and psychiatric symptoms. An array of such problems makes it a challenge to an anesthetist inadequately preparing the patient for an uneventful anesthetic experience. Patients with autism are more likely to require a general anesthetic as compared to normal children of the same age.<sup>[2]</sup>

These children require a lot of attention, patience and role play in order to achieve a good rapport before performing a clinical examination. The dentist also faces a similar difficulty in his examination. Thus general anesthesia facilitates a complete, unhurried and sometimes necessary, preventive or restorative surgical treatment in a single sitting.<sup>[6]</sup>

An effective premedication is the key starting point of a smooth induction and uneventful anesthesia. Midazolam is an excellent drug in this regard for children with milder forms of autism while ketamine is often the choice for children with moderate to severe forms.<sup>[4]</sup> However, on many occasions due to noncompliance/combativeness on part of the patient or parental apprehension, it may be difficult to administer the premedication.

The first step in planning and most easy to incorporate in this regard is allowing parents, usually the mother in the operative area. The child may also be allowed to carry his favorite toy and if possible, enter the theater in normal clothing.<sup>[2]</sup>

To minimize anxiety, starvation, and agitation such children should preferably be placed first in the list. An early start leads to an early recovery. The premedication should ideally be outside the OR, preferably in the preoperative area, where it is easier for the parent to administer the premedication with minimum suspicion, in a non-threatening environment.

Children cannot legally consent to a surgical or anesthetic procedure, so it is very important to win the confidence and cooperation of the parents. The entire plan of induction of anesthesia should be explained to the parents and consent for restraint during induction should be obtained from the parent, as well as the staff in the OR. If the surgery is elective, it can be postponed for better preparation, in case the premedication fails. However, if the procedure is life-saving or an emergency, then restraint becomes a necessity. Restraint should be applied simultaneously by staff in the OR and not left to be done by the already emotional and distressed parent.

Such patients are more likely to have emergence agitation and delirium at recovery. The parent should preferably be

in the recovery room before the patient arrives. The child should receive a good sedative-analgesic to aid in a smooth recovery.<sup>[7]</sup>

### Conclusion

Patients with special abilities need special care. It is always worth the effort, spending some extra time with the parents and the child before the surgery, to win the confidence of both and build a preoperative rapport. One must always have a plan B in case plan A fails. A good premedication, safe induction and adequate intraoperative and postoperative analgesia can ensure a calm child in the recovery area and an equally calm parent.

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### Conflicts of interest

There are no conflicts of interest.

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