



ANAESTHETIC CHALLENGES FOR DEAF AND MUTE CHILD IN OUT OF OPERATING ROOM SETTINGS.

Sudha Pahal*

*Corresponding Author

ABSTRACT

Background: An Out of Operating Room Anaesthesia is itself a no small task, and that becomes humongous if that is to be provided to a deaf and mute child. **Case:** We describe a case where we had to administer anesthesia in an out of OR setting to a 10 year old deaf and mute child. **Conclusion:** We conclude that appropriate planning and a friendly repo with child is as important as it is to reduce the pain of procedures. Taking due care of airway management equipment and use of sign language in deaf is needed.

KEYWORDS : Deaf and Mute child, Non-Operating Room Anaesthesia, NORA

INTRODUCTION

Paediatric anaesthesia has developed into a super specialised field in itself because we realised that a child is not a miniature adult and poses a different set of challenges. Non Operative Room Anaesthesia (NORA) is associated with difficulty of an unfamiliar setup, and lack of expertise staff and unavailability of choice of drugs and equipment. The limitation of communication with deaf and mute child itself can prove a major hurdle during anaesthesia and peri-procedure care. When the patients who are deaf and mute come for surgical procedures, they require special preparations and care. There is paucity of literature describing the problems with and considerations for the anesthetic management of the deaf and mute patients.¹ We are giving an account of administering anaesthesia to such a child in an out of Operative Room setting.

Case Report

Anaesthesia team was called to assess a congenitally deaf and mute, 10 year old combative female child due for Auditory Steady State Response (ASSR) for hearing assessment. No significant finding was found in birth history. Her previous consultations were thoroughly reviewed. Her echo cardiography report did not report any congenital cardiac anomaly. She had a convergent squint and high arched palate, macroglossia and irregular dentition.

Meanwhile she was given oral midazolam and EMLA cream was applied to a probable venous line site and mother was asked to calm the child outside the room and bring her after some time.

When she returned she was calm and little drowsy. She was distracted with cartoons on mobile phone and a 20 gauge venous cannula was placed on the EMLA patch site. Pulse oximeter was attached to patient and she was given Inj. Midazolam 0.5mg. Oxygen insufflation was done by venturi mask and a side stream etCO₂, sampling line was placed close to nostril. ECG and NIBP was also connected. She was given inj. Propofol 10mg whenever the child moved during the procedure. It lasted 30 minutes and total 40mg of propofol was given to the patient. She was also given 2mg of Inj Ondansetron.

The anaesthesia was uneventful and she was observed for one hour after she became conscious and was handed over to otorhinologist after that who discharged her to home.

DISCUSSION

These special children pose a unique challenge for anaesthetist, but they only require motherly care and a meticulous planning. Making a friendly connection with the child during the pre-procedure assessment is of great help. Mobile phones come to our help in this situation and children get easily attracted to this gadget. They can also be shown

their favourite cartoons for this. Needles and syringes should be kept hidden from the child's sight as it can render the child fearful and uncooperative. EMLA cream helps reduce the pain of the needle. Most anaesthesiologists encounter such patients at one time or another. There is lack of training and experience of anesthetists, surgeons and paramedical staff in handling such special situations which include preoperative familiarization and building of good rapport with the patient.²

Such children usually have an associated syndrome like Treacher Collins, goldenhar syndrome, Jervell and Lange-Nielsen's syndrome, which brings its own concerns in anaesthesia. Such patients pose unique challenges to anesthetists because of their facial deformity and abnormal vertebral curves which renders their neck and spine less flexible for intubation. Difficult mask ventilation has also been observed in these patients. Pediatric patients are more prone to develop airway related complications such as bronchospasm, laryngoapasm and insufflation of stomach with air due to mask ventilation may increase the chances of aspiration.^{3,4,5} Nevertheless isolated presentation is also found. Our child did not had any syndrome.

Although ASSR is painless procedure, VAS scoring can be taught to such children in preoperative settings to communicate about post procedural pain. Interpreter or any parent of the child, preferably mother may be asked to accompany the patient. There is always a component of fear in such children while visiting hospitals, which gets all the more apparent if the child is separated from mother. This can make a child agitated and uncooperative. BIS monitoring has been used in many case studies for assessment of anaesthetic depth in these patients. Sign language has also been used in deaf and mute patients.² But it sometimes gets difficult to use in patients who are intellectually challenged and illiterate. We suggest the use of any of the above to help communicate with the child. Communicaton gets all the more essential when there is any procedure causing pain.

The biggest challenge in an out of OR anaesthesia is that of airway. This child had features of maloccluded teeth with high arched palate and macroglossia, which suggested difficult airway. Also, we do not have the comfort of our work station outside OR and hence we must check and prepare whatever devices are available. We had prepared our difficult airway cart accordingly. We believe that every case outside of OT should be prepared as an anticipated difficult airway. Fortunately the child did not require any airway device placement during the procedure.

These special children pose us a challenge which should be taken ethically and morally for. We have an opportunity to take care of those who are unable to communicate for themselves. We have an obligation for them and a slight gentle attitude with proper planning and preparation could help manage

such patients extremely well.

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