



Original Research Article

SEADATION USED DURING MRI IN RADIOLOGY – A INSTITUTIONAL STUDY

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ABSTRACT

The past few years has seen as rise in the incidence of imaging modalities that are used including in children. It is well known that children cannot remain still for an MRI scan and need medication to help them relax or sleep during the Although the currently available agents generally are considered to be safe, their use is not completely is necessary that the child be closely monitored. In view of this we did a prospective study to evaluate the incidence of contrast allergies at Akash Institute of Medical Sciences & Research center, Bangalore, India.

INTRODUCTION

Magnetic resonance imaging (MRI) is being used increasingly in the past few years a number of paediatric conditions as it helps to evaluate and delineate the pathologies without making use of ionizing radiation[1,2]. By making use of sedation it has helped a lot to make a diagnosis especially in children between the age of 3months and younger than 6 years. it is necessary to sedate the child during MRI examinations so that they are still and following breathing commands. This makes it possible to get images of superior quality and without motion artefact, which would be impossible without the use of sedation in these agents.^[3-6]

Prompt recognition and treatment are invaluable in blunting an adverse response of a patient to anesthetic , and may prevent a reaction from becoming severe or even life-threatening.^[3,6]

In spite of this there are very few studies done on this topic. In view of this we did a prospective study to evaluate the incidence of contrast allergies at Akash Institute of Medical Sciences & Research center, Bangalore, India.

MATERIALS AND METHODS

The study was a prospective case study the data of which was obtained from 20 children who met the predefined inclusion and exclusion criteria who visited the department of Radiodiagnosis of Akash Institute of Medical Sciences & Research center, Bangalore, between the time period from period of May 2018 to August September 2021 who had any one of these were considered not eligible to participate if they had no history of allergies, immunocompromised states or were taking any form medications, aged from 3 months to 60 years. A those who were eligible for the study and consented for the study were chosen They are evaluated using a structured semi filled proforma. They were given sedation prior to the procedure and monitored by a paediatrician. monitored every 5 min, ventilation , respiratory rate chest auscultation , oxygenation (pulse oximetry with appropriate alarms) , vital signs (blood pressure, pulse, ECG.the images acquired were scaled on a scale of 1-5 (1-not appropriate -needs repeat , 2 poor , 3 ok can be read, 4 is better still has artefacts , 5 good quality).

RESULTS

Table 1: Patient characteristics

AGE	NUMBER OF CASES	PERCENTAGE
3 MONTHS TO 1 YEAR	2	10.00%
1-3 YEARS	8	40.00%
4- 6 YEARS	10	50.00%
GENDER	NUMBER OF CASES	PERCENTAGE
MALE	12	60.00%
FEMALE	8	40.00%
MEAN DURATION OF SEADATION	42.56 MINUTES (SD 7.89)	(20 MINUTES-60 MINUTES)
NEED TO REDO MRI	3 CASES	15.00%
Ramsey score		
2	9	45.00%
3	11	55.00%
4	1	5.00%
Nausea/ vomiting	2	10.00%

Table 2: Quality of images

quality of images	NUMBER OF CASES	PERCENTAGE
1-not appropriate - needs repeat ,	1	5.00%
2 poor ,	0	0.00%
3 ok can be read ,	5	25.00%
4 is better still has artefacts,	2	10.00%
5 good quality	12	60.00%

DISCUSSION

Sedation is defined as “a technique in which the use of a drug or drugs produces a state of depression of the central nervous system enabling treatment to be carried out, but during which verbal contact with the patient is maintained throughout the period of sedation”.[7,8] The first monitoring guideline for sedation was written by Dr Charles Coté and Dr Theodore The American Academy of Pediatrics (AAP) defines the goals of sedation in the paediatric patient for diagnostic and therapeutic procedures as follows: to guard the patient’s safety and welfare; to minimise physical discomfort and pain; to control anxiety, minimise psychological trauma and maximise the potential for amnesia; to control behavior and/or movement to allow for the safe completion of the procedure; and to return the patient to a state in which safe discharge from medical supervision, as determined by recognised criteria, is possible.[9]

Owing to advances in MRI and its crucial role in the diagnosis of various diseases, deep sedation or anesthesia for MRI in children is requested increasingly.

The main goals of paediatric sedation/general anesthesia (S/GA) vary according to the specific imaging procedure, but generally encompass anxiety relief, pain control and control of excessive movement.[9]

In the study we noted that by using sedation the time needed can be reduced, a the quality of the images can be improved.

CONCLUSION

We concluded that its useful to use sedation in children so that good quality images can be got without any adverse effects on the child.

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