SEDATION STUDY- A RETROSPECTIVE STUDY OF CHILDREN REQUIRING SEDATION FOR MRI IN A REGIONAL HOSPITAL

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BACKGROUND

MRI scan for children- confronting and scary.

Sedation  - minimise distress for the child

- optimise the quality of the MRI scan.

OBJECTIVE

To assess the quality, success and safety of the BHS Paediatric sedation CPG in managing children who required sedation for MRI scans.

METHOD

A retrospective study- Sep 2015- Oct 2017, Age group - 1 day to 18 years of age.

**A primary outcome**- completion of a quality MRI scan.

**A failed outcome**- the MRI requiring rebooking.
## RESULTS

Total MRI scans (80) - Brain, Spine, Brain and spine, Brain and orbit, musculoskeletal.

<table>
<thead>
<tr>
<th></th>
<th>RESULTS</th>
<th>PROTOCOL NOT FOLLOWED</th>
<th>DRUGS</th>
<th>NON PHARMACOLOGICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUCCESSFUL</td>
<td>71/80 (89%)</td>
<td>12/71 (17%)</td>
<td>CHLORAL HYDRATE (oral)</td>
<td>DISTRACTION</td>
</tr>
<tr>
<td>UNSUCCESSFUL</td>
<td>9/80 (11%)</td>
<td>7/9 (78%)</td>
<td>MIDAZOLAM (oral, intranasal, buccal, iv)</td>
<td>VERBAL REASSURANCE AND SLEEP DEPRIVATION</td>
</tr>
<tr>
<td>ADVERSE EVENTS</td>
<td>30%</td>
<td></td>
<td>KETAMINE (iv)</td>
<td></td>
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<tr>
<td></td>
<td>Severe 4%</td>
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<td></td>
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<tr>
<td></td>
<td>(desaturations, dizzy spells)</td>
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1. Despite a range of agents used, most of the MRI/ sedation were successful
2. Certain types of scan needed certain types of sedation
3. Certain ages groups have better outcomes with different drugs.
OUTCOME AND IMPLICATIONS

Sedation guidelines/ facilities availability minimizes - travel
- risks of GA and
- the waiting time.

Current CPG- Safely manages children for sedation.

Updating CPG for better streamline choice of sedation for the different age groups.
Failed oral/buccal/IN sedation

$\geq 12 \text{ months of age}$

No and has no IVC

$5-12 \text{ months of age}$

No

$\geq 12 \text{ mo and } \leq 50 \text{ kgs}$

No

MIDAZOLAM
0.1mg/kg in 10mls normal saline
(give in 1 ml repeats in 5 mins interval).
max 0.15mg/kg

MIDAZOLAM
0.1mg/kg in 10mls N/S
(give 1-2 ml in 3 mins interval).
max 0.15mg/kg

MIDAZOLAM
5mg in 10mls N/S,
(1-2mls, every 3 mins)
max 7.5mg in 15mls of N/S

Fails

Fails

KETAMINE
IM 3-4mg/kg
repeat 2-4mg/kg in 10 mins
C/I if $< 12 \text{ mo and in poorlycontrolled seizures}$.

KETAMINE
1-1.5 mg/kg is given slowly over (1-2 min), incremental doses of 0.5mg/kg may be given.
THANK YOU