PAEDIATRIC ANAESTHESIA

Common Perioperative Problems

EMERGENCE DELIRIUM (ED)

Definition:
Dissociated state of consciousness during recovery from GA, when the child appears irritable, uncompromising, uncooperative, incoherent and inconsolable. ED causes disruption in the PACU, leads to dissatisfaction in caregivers and the associated restlessness, movement or thrashing may be potentially dangerous to the child.

ED is a diagnosis of exclusion. It is important to exclude hypoxia, hypotension, metabolic disturbances and pain before concluding that an agitated child has ED.

Incidence:
This varies depending on the diagnostic criteria. In KKH, ED occurs in 10% of children undergoing GA for day surgery and 43% of children undergoing GA for MRI.

Risk Factors:

- Rapid emergence from anaesthesia
- Use of short acting volatile anaesthetic agents
- Postoperative pain
- Surgery type (ENT & Eye)
- Age (2- 5 year old)
- Preoperative Anxiety
- Child temperament

Assessment:

PAED scale *Sikich and Lerman 2004.*

This is a validated tool for measuring emergence delirium in children.

Behaviour	Not at all	Just a little	Quite a bit	Very much	Extremely
Makes eye contact with caregiver	4	3	2	1	0
Purposeful actions	4	3	2	1	0
Aware of surrounding	4	3	2	1	0
Restless	0	1	2	3	4
Inconsolable	0	1	2	3	4

The PAED score is the sum of all each stem. A score of 10 more is highly suggestive of ED.

Preventive Measures

- Allowing child time to wake up undisturbed.
- Propofol: bolus 1 mg/kg given at end of procedure or TIVA
- Fentanyl: 1 MICROgram/ kg given 10 minutes before end of procedure
- Dexmedetomidine: 0.15- 0.3 MICROgram/ kg

Treatment Options:

- Fentanyl
- Propofol
- Midazolam
- Nurse in a quiet environment
- Reuniting with parents

References:

1. Sikich N, Lerman J. Development and psychometric evaluation of the Paeiatric Anesthesia Emergence Delirium scale. Anesthesiology 2004; 100: 1138- 45.
2. Bong CL, Lim E,… Tan J SK. A comparison of single-dose dexmedetomidine or propofol on the incidence of emergence delirium in children undergoing general anaesthesia for magnetic resonance imaging. Anaesthesia 2015; 70: 393–9.
3. Bong CL, Ng AS. Evaluation of emergence delirium in Asian children using the Pediatric Anesthesia Emergence Delirium Scale. Pediatric Anesthesia 2009; 19: 593–600.