Baystate Health
Scholarly Commons @ Baystate Health

All Scholarly Works

10-2018

A case of severe emergence agitation in the post-operative care unit in a child with lost intravenous line

Stanlies D'Souza
Baystate Health, dsouzastan@yahoo.com

Follow this and additional works at: https://scholarlycommons.libraryinfo.bhs.org/all_works
Part of the Medicine and Health Sciences Commons

Recommended Citation
D'Souza S. A case of severe emergence agitation in the post- operative care unit in a child with lost intravenous line. American Society of Anesthesiologists (ASA) Conference, October 13-17, 2018, San Francisco, CA.

This Presentations, Research is brought to you for free and open access by Scholarly Commons @ Baystate Health. It has been accepted for inclusion in All Scholarly Works by an authorized administrator of Scholarly Commons @ Baystate Health.

A Case of Severe Emergence Agitation in the Postoperative Care Unit in a Child with Lost Intravenous Line

Stanlies D'Souza, M.D.
Department of Anesthesiology at Baystate Medical Center/University of Massachusetts Medical School

Baystate Health

University of Massachusetts UMASS Medical School

Introduction

We describe a case of management of emergence agitation in a nonverbal developmentally delayed anxious child without an intravenous line in the postoperative care unit (PACU).

Case description

A 6 year old, morbidly obese, 77 kg male, non-verbal with developmental delay and autism presented for resection of in-growing toe nail. He had oral midazolam preoperatively and was cooperative for inhalational induction with nitrous oxide, oxygen and sevoflurane.

After securing an intravenous (IV) line after induction, laryngeal mask airway (LMA) was placed and anesthesia was maintained with sevoflurane, fentanyl and local digital block. Propofol was administered pre-emptively for emergence agitation at the time of removal of the LMA under deep anesthesia. Patient became combative in PACU and IV was lost.

Emergence agitation was successfully managed with intramuscular lorazepam and haloperidol.

Case discussion

Risk factors for pre-op anxiety[1]

- Preschool chldren
- No siblings
- Shy or inhibited children
- High IQ with poor social adaptive abilities
- Divorced or separated parents
- Prior bad experience with surgical experience
- Poor child-parent relationship

Risk factors for emergent agitation[2]

1. Preoperative anxiety
2. Preschool children
3. Sevoflurane anesthesia
4. Pain

Options to manage pre-op anxiety in our child[2]

1. Parental presence at induction
2. Oral midazolam
3. Oral Lorazepam
4. Oral ketamine
5. Oral Clonidine
6. Oral Dexmeditomidine

Factors not associated with increased incidence of emergence agitation[2]

- Rapid emergence from anesthesia
- Depth of anesthesia
- Duration of anesthesia
- Emergence agitation from a prior anesthetic
- Type of surgery provided pain is well controlled

Prevention of emergence agitation[2,3]

1. Propofol 1mg/kg at the time of emergence
2. Fentanyl IV
3. Dexmedetomidine IV [2]
4. Clonidine 1V [2]
5. Ketamine IV

Assess the patient for potentially dangerous causes of agitation in PACU

Hypoxia, Hypoglycemia, Pain, Hypercarbia

Factors of unproven benefit in the management of emergence agitation[2]

1. Parental presence
2. Midazolam
3. Dexmeditomidine PO

Management of emergence delirium in a patient with lost IV in PACU

1. IM Benzodiazepines, Lorazepam/Midazolam
2. IM Haloperidol
3. IM Dexmeditomidine
4. Induction of general anesthesia and insertion of IV

Deep removal of LMA vs awake extubation of endotracheal tube [4]

The incidence of emergence agitation is lower when LMA is removed deep compared to awake extubation of an endotracheal tube anesthesia.

Conclusion: In the absence of an IV In our case, we successfully managed emergence agitation with intramuscular lorazepam and haloperidol.

REFERENCES:
1. Kar SK , Ganguly T , Dasgupta CS, Goswami A: Translational Biomedicine 2015; 6:30
2. Costi D, Cyna AM, Ahmed S, Stephens K, Strickland P, Ellwood J, Larsson JN, Chooi C, Burgoyne LL, Middleton P. Effects of sevoflurane versus other general anaesthesia on emergence agitation in children. Cochrane Database of Systematic Reviews 2014: CD007084
3. A. Pickard P. Davies K. Birnie R. Beringer: Systematic review and meta-analysis of the effect of intraoperative α2-adrenergic agonists on postoperative behaviour in children. British J Anaesth 2014; 112:982-90
4.Lee YC, Kim JM, Ko HB, Lee SR: Use of laryngeal mask airway and its removal in a deeply anaesthetized state reduces emergence agitation after sevoflurane anaesthesia in children. J Int Med Res. 2011; 39:2385-92