Introduction

- The preoperative time frame is a period of Murat. I et al. Preoperative anaesthetic morbidity in children: a database of
- Among acute deterioration events there
- Edomwonyi NP et al. Anesthesia
- ENT
- Proc
- ter
- That acute deteriorations and RRT's
- E
- 4
- Pulm
- 5
- PICU
- 3
- These orthopedic acute deterioration
- No transfer
- Little is known about the characteristics,
- rat
- het
e c
- Hines R. et al. Complications occurring in the post anesthesia care unit: a
- GS
- This potentially places patients at risk for life
- Neuro
- We also see a diversity among the types
- Rads
- an increased level of care.
- observation or change in disposition, to reflect
- These patients may benefit prolonged
deterioration following general anesthesia.
- patients who may be at higher risk for
greater than 24 hours after the anesthetic.
- Finally, these findings will be used to identify patients who may be at higher risk for
deterioration following general anesthesia. These patients may benefit prolonged
observation or change in disposition, to reflect an increased level of care.

Methods

Between 2013 and 2015 at the Children’s Hospital of Colorado all records of patients
who had an acute deterioration; any medical emergency requiring immediate assistance,
respiratory arrest or compromise, acute decrease in perfusion, or cardiac arrest; or an
RRT, non-emergent deterioration in a patient’s condition, called were evaluated. Patients
who had received a general anesthetic within 24 hours prior to suffering their event were
selected for evaluation in order to identify common etiologies or characteristics including
type of procedure, primary diagnosis, interventions and disposition. Patients were
excluded who experienced non-emergent deterioration or RRT’s pre-operatively, intra-operatively or
greater than 24 hours after the anesthetic. Finally, these findings will be used to identify patients who may be at higher risk for
deterioration following general anesthesia. These patients may benefit prolonged
observation or change in disposition, to reflect an increased level of care.

Results

At this point, patients suffering from codes in 2013 have been identified, evaluated, and analyzed. In 2013, 89 acute deteriorations and 522 RRT’s
were called; of these 8 acute deteriorations (8.9%) and 32 RRT’s (6.1%) were called within 24 hours of an anesthetic. Baseline characteristics
included a mean age of 6.8 years, 37.5% less than 3 years of age, and 70% were male. 50% occurred within 6 hours of the anesthetic with 61%
being related to a respiratory event. 50% were transferred to an ICU setting following the activation of the RRT or acute deterioration. ASA
classes 1-4 were represented with the majority being ASA 3 (77.5%). Of the patients suffering from an acute deterioration 50% (4) occurred
following an orthopedic procedure with 3 (75%) having either emesis and aspiration or bradypnea/apnea being the causative event. No patients
died as a result of their event.

ASA Classification

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<th>Mean</th>
<th>Total</th>
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<td>15</td>
<td>37.5%</td>
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<td>Age &lt; 3</td>
<td>26</td>
<td>70%</td>
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<td>Gender Female</td>
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<td>40%</td>
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Procedure Type

- Cardiac
- Neuro
- ENT
- Pulm
- Ortho
- GS
- Rads
- Proc

Transfer

- ICU
- PICU
- No transfer

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Discussion

Our study would be the first, to our knowledge, to characterize the incidence and associated factors in patients suffering
from acute deteriorations or RRT’s in the 24 hours following an anesthetic. Previous
works have established the rate of complications following anesthesia in
children in the PACU1-3, but have not
decided anesthetic or patient risk factors
over the following 24 hours. Our initial
findings suggest several things:

- That acute deteriorations and RRT’s
- following anesthesia make up a minority of
these events overall (6.5%).
- We also see a diversity among the types
of procedures for those patients having
RRT’s.
- Among acute deterioration events there
seems to be a higher number of patients
suffering codes following orthopedic
procedures.
- These orthopedic acute deterioration
events may be related to opioid side
effects.

Going forward we hope to further elucidate
risk factors and associations such as intra-
operative medications, regional and
neuraxial procedures, airway techniques,
and co-morbid conditions. We may be able
to use this information to provide
additional monitoring or change
dispositions after PACU discharge to
provide optimum care.

References

25,189 anaesthetics over a 30 month period. Paediatric Anaesthesia. Feb;