Abstract

- The purpose of this project was to research Negative Pressure Pulmonary Edema (NPPE) with special consideration related to its prevention, recognition and treatment.
- A provider must be able to prevent NPPE, but if it is not preventable then a provider must be able to recognize it happening and appropriately intervene. Diligently preventing laryngeal irritation through suctioning and anesthetic depth was shown to be key.
- After a literature review, a PowerPoint presentation was assembled and presented to 42 SRNA’s during a clinical conference.
- The acquired t-value of the presentation was -23.601 with an associated p-value of <.05 level of confidence, rendering this project statistically relevant.

Description of Negative Pressure Pulmonary Edema

- **AIA post-obstruction pulmonary edema (POPE)**
- **Occurs in 0.05% - 0.1% of all anesthetic cases**
- **Thought to occur in up to 11% of patients needing intervention for acute upper airway obstructions**
- **Can be classified as Type 1 or Type 2 NPPE**
- **Cause is multifaceted but has a central mechanism**

Signs and symptoms of NPPE

- **Pink frothy sputum**
- **Tachypnea**
- **Agitation**
- **Desaturation**

Treatment of laryngospasm

- **Goal is to relieve the airway**
- **Obtain CXR or Chest CT**
- **Continuous positive pressure with 100% O2**
- **Consider Propofol (0.25-2mg/kg) and/or Succinylcholine (0.1-0.5 mg/kg )**
- **Continuous positive pressure with 100% O2**
- **Intubate if necessary**

Prevention

- **Identify at risk populations**
- **Recent URI**
- **Young, healthy, athletic males**
- **History of reactive airway**

Recognition & Treatment

- **Signs and symptoms of laryngospasm**
- **Sudden loss of ETCO2**
- **Bradycardia**
- **Hypoxia**

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Treatment of NPPE

- **Supportive, reduce hypoxemia**
- **Mechanical ventilation with PEEP**
- **Obtain CXR or Chest CT**
- **Scheduled breathing treatments**
- **Will usually resolve in 24-48 hours**

Conclusions

This presentation not only helped SRNA’s become more familiar with NPPE it was also demonstrably successful as a teaching tool.

The presentation improved pre and post test scores dramatically showing that knowledge was gained.

This entire project will be available to future NAP classes in order to enhance learning and awareness about this very pertinent topic.

*References available upon request*