Educational Objectives

By the conclusion of this learning module, participants will be able to:

- Describe an induction plan as it relates to control of post tonsillectomy hemorrhage
- Recognize the need for other forms of nontraditional IV access, including potential for IO access
- Describe when to initiate use of the ASA Difficult Airway Management Algorithm

Case Stem and Questions

At change of shift, you are presented with a 4-year-old 25 kg male for control of post tonsillectomy hemorrhage. Your patient is currently post op day 2. He was admitted for observation following his original surgery related to an AHI greater than 30 with a respective nadir of 74%. You note that the patient does not currently have any IV access, as the iv was removed by the floor nurse with the intent to discharge the patient. Subsequently after IV removal, the nurse on the floor noted that the patient started to "cough up blood," prompting the call to the ENT surgeon.

Past medical history includes reactive airway disease with a recent upper respiratory infection that had resolved approximately three days prior to the original surgery. Review of the patient's old anesthetic record reveals the patient to be a known difficult stick, but an "easy airway" with the anesthesia provider noting a grade 1 view. Vital signs are as follows: T 40 C, HR 112, BP 95/54, RR 24 with a SpO2 of 97% on room air. The patient appears malaise and is currently laying on his side.

1. What is your plan for induction?

2. Any potential anesthetic concerns?

3. What inhalational agent would you prefer for anesthetic maintenance of this case?

Your patient is brought back into the operating room, where subsequent attempts at IV access by multiple providers are met with failure.

4. What other steps can be used to secure IV access outside of traditional means?

5. What other forms of access can be utilized?

Following access, the patient is intubated without any issue. The bed is turned and the surgeon begins his procedure following surgical time out and antibiotic administration. As the case continues, you note that the patient's temperature has increased from 40 C to 41 C.

6. Would the increase in the patient's temperature affect your anesthetic management in any way?

7. How would you handle the administration of medication, specifically narcotics in this case?

The surgeon finishes his part of the procedure, noting that there appeared to be very little postoperative bleeding from the site. The patient is returned to you as you prepare for extubation.

8. Would you consider extubating this patient on the deeper side or fully awake?

Approximately 3 minutes status post extubation, you note some blood coming from the patient's right nare. You notify the ENT resident that is still in the room, as the attending surgeon was called to another operating room. The resident comes over to assess the patient and in doing so decides to spray Afrin in the patient's nose, prompting the patient to cough. As you turn your patient's head to the side, the patient coughs up a dark red clot that fills their entire face mask. Immediately after this, bright red blood begins pulsating out of your patient's mouth as the patient begins to desaturate.

9. What would be your next course of action?

Attempts at 2 person/2 handed ventilation are unsuccessful, as the patient continues to desaturate. You decide to emergently intubate, but upon direct laryngoscopy, you are unable to obtain a view.

10. What would be your next course of action?

The patient's condition does not improve, and after utilizing the difficult airway algorithm, the decision is made to emergently trach the patient. At this point, the attending ENT surgeon is unavailable to return to your operating room. The ENT resident states that she is uncomfortable

performing a trach as she hasn't had that much experience with it. The trach set is already in the room, and you decide to trach your patient.

11. How would you proceed?

12. Which type of technique would you utilize?

The ENT attending surgeon returns to the operating room immediately following placement of the patient's emergent trach. The patient is now able easily ventilated and his oxygen saturations have begun to improve. The bed is turned back to the surgeon, and he finds the source of the arterial bleed. The decision is made to transfer the patient to the intensive care unit post operatively.

References

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