

C-31 3-Month-Old Child: Challenges of a Critical Pediatric Airway

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Objective

After completion of this session, the participant will be able to:

- Assess the pediatric patient for the risk factors of a difficult intubation.

Case Stem Question

3-month-old 5.4kg male with history of Pierre Robin Sequence s/p mandibular distraction at 3 weeks of life and presents with one day of intermittent abdominal pain and vomiting found to have findings consistent with intussusception on ultrasound requiring urgent operative management.

Vital signs: BP 80/50, HR 152, SpO₂ 100%, temp 36.9

Labs: CBC and BMP Normal values.

Sleep study before mandibular distraction placed showed AHI 12.5/hr. with nadir 73.7% Physical exam significant for micrognathia, glossoptosis and bilateral MDO hardware After physical examination and evaluation patient was brought to the operating room with his mother. Standard ASA monitors including EKG, BP and pulse oximetry were applied. Glycopyrrolate 4mcg/kg IV administered. Nasal gastric tube was placed and connected to suction to decompress the stomach with minimal gastric contents emptied. Midazolam 0.1mg/kg IV administered. Video laryngoscope with appropriately sized pediatric blade introduced with grade 3 visualization of cords and 5mg/kg 1% lidocaine applied using atomizer. Two provider technique applied with video laryngoscope and oral fiberoptic bronchoscope with subsequent vocal cord visualization. FOB introduced through vocal cords with advancement of 3.5 cuffed ETT over bronchoscope. ETT position confirmed above carina, airway secured and general anesthesia was induced

Guiding Questions for Discussion

1. What is Pierre Robin Sequence?
2. What is Mandibular Distraction Osteogenesis surgery?
3. How does a pediatric airway differ from an adult airway?
4. How is pediatric OSA severity determined and how does it differ from adults?
5. What are the consequences of OSA on the heart and lungs?
6. What criteria should be used to identify patients with a full stomach?
7. What equipment options are available for approaching the pediatric difficult airway?
8. How would you proceed with fiberoptic intubation in a pediatric patient with a suspected difficult airway?
9. How is the induction of a patient with a full stomach different? What about in a pediatric patient with an expected difficult airway?
10. What are the considerations for extubating a patient with a difficult airway?

References

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4. Canadian pediatric anesthesiologists prefer inhalational anesthesia to manage difficult airways: a survey. Brooks P, Ree R, Rosen D, Ansermino M, *Can J Anesth* 2005; 52:3/pp285-290
5. Management of the Difficult Airway in the Pediatric Patient. Krishna SG, Bryant JF, Tobias JD. *J Pediatr Intensive Care*. 2018 Sep;7(3):115-125. doi: 10.1055/s-0038-1624576. Epub 2018 Jan 28.