SAMBA COVID-19 Webinar Series #5: Non-Operating Room Anesthesia (NORA) in the COVID-19 Era

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Society for Ambulatory Anesthesia (SAMBA) Statement on Resuming Ambulatory Anesthesia Care as Our Nation Recovers from COVID-19
4/18/2020

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COVID-19 and Anesthesia for GI

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COVID-19 and Anesthesia for Bronchoscopy

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  • 2. Clinical Airway Management: an Illustrated Case Based Approach”
COVID-19 and Anesthesia for Bronchoscopy

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Modern Fully Equipped Bronchoscopy Suite
Anesthetic Considerations And Techniques For Advanced Diagnostic And Therapeutic Bronchoscopy

Anesthesia and Upper and Lower Airway Management for Advanced Diagnostic and Therapeutic Bronchoscopy

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Anesthesia for Bronchoscopy

Basem B. Abdelmalak<sup>*</sup>, Thomas R. Gildca<sup>x</sup> and D. John Doyle<sup>†</sup>

Anesthesia Technique for Endobronchial Ultrasound-Guided Fine Needle Aspiration of Mediastinal Lymph Node

Mona Sarkiss, MD, PhD,* Marcus Kennedy, MD,† Bernhard Riedel, MD, PhD,* Peter Norman, MD,* Rodolfo Morice, MD,† Carlos Jimenez, MD,† and George Eapen, MD†
SARS-CoV-2

• A single stranded RNA virus.
• Droplet transmission, a distance of up to ≈ 6 feet
• Claimed to stay viable for hours and on some surfaces up to days
• Aerosols emitted by coughing, sneezing, breathing vigorously, and even speaking loudly, travel a distance of up to ≈ 300 feet

SARS-CoV-2

- SARS-CoV-2 may be transmitted from asymptomatic carriers.
- For symptomatic patients, they can be contagious even before they start having symptoms.
- Up to 30% false negative rate on testing.

Aerosol Generating Procedures (AGP)

- Intubation, extubation, bronchoscopy, endoscopy, otolaryngologic surgeries such as transnasal surgeries and tracheostomies
- Non-invasive ventilation:
  - Continuous Positive Airway Pressure (CPAP)
  - High Flow Nasal Oxygen (HFNO)
- Maximum exhaled air dispersion distance reached ≈3 feet at 5L/min standard NC

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SAMBA Recommendations

• Maintain safe distancing between patients and visitors
• Continue screening patients for symptoms and measuring temperature
• Limit visitors to either none or only one individual per patient
• Avoid crowding in waiting areas by separating chairs 6 feet apart
• Strongly encourage the use of appropriate masks in all public areas within the facility
• Strongly encourage the use of surgical grade masks in clinical areas
• PPE, including N95 masks, should continue to be worn for aerosolizing procedures
• Schedule procedures to allow time for droplets to settle during aerosolizing procedures and for proper cleaning
Routine bronchoscopy for patients with known or suspected COVID-19 for the mere indication of diagnosing or confirming COVID-19 diagnosis is relatively contraindicated.

Accepted indications: inconclusive non-invasive COVID-19 test, suspicion for an alternative diagnosis which would change clinical management.
When Bronchoscopy is Necessary for a Patient Who is a COVID-19 Positive

- Use negative pressure procedure room for the procedure
- Limit personnel
- Use full PPE
- Disposable bronchoscopes should be considered if available
- Avoid atomizing patients’ airway
- Avoid jet ventilation

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4/30/2020
Why Testing?

• Benefit to patient
  • Guides operative time
  • Decreases perioperative risk
  • Creates safety perspective for patients

• Benefit to caregiver
  • Allows team to manage appropriately
  • Drive PPE utilization

• Benefit to organization
  • Cohorting
  • Risk management

Courtesy of:
Mark Taylor, MD, FASE
Cleveland Clinic
SAMBA Testing Statement

• Testing 24-48 hrs before planned procedures and no greater than 72 hrs as feasible
• Symptomatic and SARS-CoV-2 virus positive patients should be referred to appropriate resources and have elective procedures postponed
• Once patients are tested they should be encouraged to self-isolate leading up to their procedures.
• Patients who have negative tests and continue to screen negative for COVID-19 like symptoms until the time of surgery can proceed.
• Antibody test is not a triaging tool!

Choice Of The Airway

• Sub-glottic and upper tracheal lesions: SGA
Choice Of The Airway

- Lower tracheal and bronchial lesions and/or defects:
  - Use as large of a tube as possible to allow room for the bronchoscope and ventilation

Other Practice Changes

- Rapid induction
- Use of Video Laryngoscopes
- Deep extubation
  - Not a good idea
- Avoid awake intubation when possible
- When needed:
  - Do not atomize or nebulize local anesthetic
  - Lidocaine lollipop or nerve blocks for topicalization
  - Disposable scope
  - Proper sedation
Jet Ventilation Equipment
Ventilating Rigid Bronchoscope

High Flow Apneic Oxygenation and Ventilation

- It provides oxygenation and ventilation for spontaneously breathing and paralyzed patients
- No VC, or airway protection

Minimize Coughing and Retching During and After the Procedure

• During:
  • Deep anesthesia,
  • Complete muscle relaxation regardless of the airway choice

• After:
  • Fentanyl during the procedure
  • Proper PONV prophylaxis
Intubation (AKA Aerosol) Box

• Makes the intubation process cumbersome, more difficult at times, and at least takes longer
• What if difficulty is encountered?
• Relaxing PPE protocol depending on the presumed protection from using the box!
• It adds a huge surface over which the virus can reside for up to days,
• disinfecting such box may pose some risks

Bronchoscopy Under Procedural Sedation

• Many patients are home oxygen dependent
• Even if not, they typically require many liters of oxygen supplementation
• Frequent coughing would increase the aerosolization of the virus during and after this already AGP,
• Use of the nasal route for bronchoscopy is common, known for high virus load
• Thus, Consider General Anesthesia
Summary

• Bronchoscopy is AGP
• JV, HFNO, NC with ≥5 L/min are AGP
• Preoperative COVID testing for all
• Use ETT when feasible
• Avoid coughing
• PPE use
• Consider GA Vs. moderate sedation, or deep sedation for bronchoscopy
Thank you for your attention
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