



# BRONCHOSCOPY- INDICATIONS, CONTRINDICATIONS AND INFORMED CONSENT

CHEENA JINJUVADIA

ASSOCIATE PROFESSOR, DEPARTMENT OF MEDICINE

DIVISION OF PULMONARY, CRITICAL CARE AND SLEEP MEDICINE

WAYNE STATE UNIVERSITY

# INDICATIONS

## ▶ DIAGNOSTIC

- Direct airway visualization down to, and including, subsegmental bronchi
- Biopsy of endobronchial, parenchymal, and mediastinal structures
- Sampling of respiratory secretions and cells via bronchial washings, brushings, and lavage of peripheral airways and alveoli- in suspected infection or unexplained parenchymal opacities
- hemoptysis
- suspected airway obstruction
- suspected lung transplant rejection

# INDICATIONS

## ▶ THERAPEUTIC

- suctioning of retained secretions
- foreign body removal (rigid bronchoscopy)
- Using balloon dilation to relieve airway stenoses (rigid bronchoscopy)
- Placing an endobronchial stent (rigid bronchoscopy)
- bronchial thermoplasty
- cryotherapy
- laser therapy

# CONTRAINDICATIONS

- ▶ ABSOLUTE CONTRAINDICATIONS
- ▶ Acute respiratory failure with hypercapnia (unless the patient is intubated and ventilated)
- ▶ High-grade tracheal obstruction
- ▶ Inability to adequately oxygenate the patient during the procedure
- ▶ Untreatable life-threatening arrhythmias

# CONTRAINDICATIONS

- ▶ RELATIVE CONTRAINDICATIONS
- ▶ Recent myocardial infarction
- ▶ Uncooperative patient
- ▶ Uncorrectable coagulopathy
- ▶ Current COPD or asthma exacerbation

# CONSENT

- ▶ Detailed discussion of risk vs benefit
- ▶ Duration of the procedure
- ▶ Detailed description of steps of the procedure
- ▶ Alternate procedures available
- ▶ Describe NPO in detail. Elaborate as much as you can
- ▶ Describe every aspect separately- bronchoscopy. Bronchoalveolar lavage, biopsy- endobronchial and transbronchial
- ▶ Get consent broadly- you don't know what you will see when you get into the airway
- ▶ Discuss the type of sedation
- ▶ Discuss home anticoagulants and when to stop them
- ▶ Allow for all questions to be asked and answer

# CONSENT

- ▶ DESCRIBE RISKS IN DETAIL SUCH AS
  1. Hoarseness or sore throat
  2. New or worsening hypoxia
  3. Fever
  4. Bronchospasm
  5. Cough
  6. Bleeding (after biopsy)
  7. Pneumothorax (transbronchial biopsy)

# KNOW THE DETAILS

- ▶ Performing coagulation studies, platelet counts, and hemoglobin levels routinely before flexible bronchoscopy is not recommended (3B)
- ▶ Coagulation studies, platelet counts, and hemoglobin should be performed before bronchoscopy in patients with clinical risk factors for bleeding such as ongoing anticoagulation, bleeding diathesis, and chronic liver and kidney disease (UPP)
- ▶ We recommend a platelet count of at least 20,000 per  $\text{mm}^3$  for performing bronchoalveolar lavage (BAL) (3B)
- ▶ We recommend a platelet count of at least 50,000 per  $\text{mm}^3$  for performing endobronchial biopsy (EBB)/transbronchial lung biopsy (TBLB) (3B)
- ▶ BAL can be performed in patients with platelet count  $<20,000$  per  $\text{mm}^3$  if clinically indicated, after careful risk–benefit analysis. In patients with thrombocytopenia, oral route is preferred for performing bronchoscopy (UPP)



# Antiplatelet and anticoagulation agents

- ▶ Clopidogrel, prasugrel, or ticagrelor should be discontinued at least 5 days before EBB and TBLB (2A)
- ▶ Low-dose aspirin can be continued in patients planned for TBLB/EBB (2A)
- ▶ Warfarin should be stopped at least 5 days prior to transbronchial needle aspiration (TBNA) or bronchoscopic biopsy and a preprocedure international normalization ratio (INR) of  $<1.5$  should be ensured (3A)
- ▶ Newer oral anticoagulants (NOACs) should be stopped at least 2 days before TBNA or bronchoscopic biopsy (3A)
- ▶ We recommend bridging therapy with low-molecular-weight heparin (LMWH) in patients on anticoagulation and at high risk of thrombosis. LMWH, when indicated, should be started 2 days after stopping warfarin. The last dose of LMWH should be administered 24 h before the procedure (3A) [[Appendix 2](#)]
- ▶ BAL can be performed in patients on therapeutic anticoagulation after careful risk–benefit analysis, preferably via oral route (UPP)

# CONSENT- RECAP

- ▶ *Discuss/describe the following when obtaining consent:*
  - ▶ Diagnosis/pertinent clinical issues
  - ▶ Purpose of procedure
  - ▶ Nature of procedure in layman's terms
  - ▶ Procedure-related risks
  - ▶ Procedure related benefits
  - ▶ Alternative procedures regardless of cost or health care coverage
  - ▶ Potential risks and benefits of choosing alternatives
- ▶ Ask patient to explain in his/her own words, their understanding of the procedure



# ▶ QUESTIONS