COPD: ANESTHETIC IMPLICATIONS

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COPD: Anesthetic Implications

1. H & P should focus on type (Emphysema vs. Bronchitis), severity (mild to advanced), and therapy (untreated or followed by physician). Medications: Use of inhalers, steroids, oxygen, and/or antibiotics. How long? Acute or Chronic use? Smoking? Review of CXR or Spirometry if available and determination of whether airflow obstruction has been optimally reduced.

2. Spirometry or CXR have not been proved beneficial as pre-operative tests. For those expected to have post-operative in-patient stays, ABG may be beneficial.

3. COPD has been shown to increase the risk of post-operative pulmonary complications to varying degrees. Inhaled anesthetic depresses the respiratory drive in response to both hypoxia and hypercapnia even at sub-anesthetic doses.

4. COPD is related with increased upper airway obstruction. Incidence of Pulmonary complications carries a relative risk of 2.7-4.7. Overall medical condition may reflect perioperative pulmonary risk better than pulmonary factors in patients with severe COPD.

5. Overall medical condition of patients with COPD who are scheduled for surgery should be optimized. Patients with evidence of suboptimal reduction in symptoms, physical examination demonstrating airflow obstruction, or submaximal exercise tolerance warrant aggressive therapy. There is no difference in treatment for patients who are not scheduled for surgery, but an increased sense of urgency must conveyed to the patient. Use of bronchodilators and glucocorticoid agents, and cessation of smoking are paramount. Antibiotic therapy should be administered if there is evidence of pulmonary infection.


PREOPERATIVE
Encourage cessation of cigarette smoking for at least 2 months
Treat airflow obstruction
Administer antibiotics and delay surgery if respiratory infection is present
Begin patient education regarding lung-expansion maneuvers

INTRAOPERATIVE
Limit duration of surgery to less than 3 hours
Use spinal or epidural anesthesia where possible
Avert postoperative residual neuromuscular blockade
Use laparoscopic procedures when possible

POSTOPERATIVE
Use deep-breathing exercises or incentive spirometry
Use continuous positive airway pressure
Use epidural analgesia
Use intercostals nerve blocks where applicable

Reference:

