

DST-403 Bronchitis Acute: Adult

DEFINITION

Inflammation of trachea and bronchi (larger airways)

Potential Causes

Viral infection: 90% of cases

- Influenza A or B, adenovirus, rhinovirus, para-influenzae, corona virus, Respiratory Syncytial Virus (RSV), human metapneumovirus

Bacterial infection: 10% of cases

- Mycoplasma pneumoniae, Chlamydia pneumoniae, Bordetella pertussis possible causes
- Streptococcus pneumoniae and H. Influenzae usually only causative organisms if there is underlying lung disease

Predisposing Risk Factors

- Chronic sinusitis
- Chronic Obstructive Pulmonary Disease (COPD)
- Asthma
- Bronchiectasis
- Immunocompromised (chronic asthma)
- Smoking
- Second hand smoke
- Air pollutants, environmental factors
- Alcoholism
- Gastro Esophageal Reflux Disease (GERD)
- Wood stoves
- Mould

Typical Findings of Acute Bronchitis

Initially the presentation of acute bronchitis is difficult to distinguish from an Upper Respiratory Tract Infection (URTI).

Later the presentation of acute bronchitis and pneumonia are often similar. In general, clients with pneumonia are sicker and usually have more chest abnormalities.

The organisms that cause bronchitis can also cause pneumonia. The difference is in where the infection lies anatomically. Bronchitis involves the larger airways, whereas pneumonia involves the smaller airways and air sacs.

History

- Previous infection of Upper Respiratory Tract (URT)
- General malaise
- Fever
- Cough: initially dry, later productive of white, yellow or green sputum
- Cough for more than 5 days
 - Cough often lasts 10-20 days
 - 45% still have a cough after two weeks, and 25% still have a cough after 3 weeks
- Muscular aching in the chest wall or discomfort with coughing
- Wheezing may be present
- Dyspnea on exertion may be present

PHYSICAL ASSESSMENT

- Temperature may be mildly to moderately elevated
- Pulse may be mildly elevated if febrile
- Respirations may be slightly elevated
- Purulent sputum is common in 50% of cases
- Rhinitis may be present
- Expiratory phase may be slightly prolonged
- Wheezes (scattered, low pitched) may be present
- Abnormal vital signs (fever, tachypnea or tachycardia) and signs of consolidation or rales on physical exam suggest the possibility of pneumonia

Diagnostic tests

- Electrocardiogram (ECG), Culture and Sensitivity (C&S) of sputum
- Consider swab for pertussis, particularly if cough lasts more than 6 days and is accompanied by vomiting
- Consider Tuberculosis (TB) skin test for cough greater than 2 weeks and in high risk or susceptible populations

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Relieve symptoms (coughing, fever)
- Prevent pneumonia

Non-pharmacological interventions

- Increased rest (especially if febrile)
- Adequate hydration (8-10 glasses of fluid per day)
- Increased humidity in the environment
- Avoidance of pulmonary irritants (e.g., stop or decrease smoking)

PHARMACOLOGICAL INTERVENTIONS

- To manage fever or pain
 - Acetaminophen 325 mg 1-2 tabs po q4-6h prn
- OR**
- Ibuprofen 200 mg 1-2 tabs po q4-6h prn
- If bronchospasm, dyspnea or wheezing is significant, short-acting β_2 -agonist bronchodilators can be used until acute symptoms resolve
 - Salbutamol 100mcg Metered-Dose Inhaler (MDI) 1 or 2 puffs q4h prn via aero chamber-maximum dose of 8 puffs/day
- Avoid antibiotics

In most cases, antibiotics are not recommended for acute bronchitis in an otherwise healthy client, as the cause is usually viral.

- Antibiotics may be considered in those at high risk of serious complications because of pre-existing co-morbidity (heart, lung, renal, liver, or neuromuscular disease, Congestive Heart Failure, diabetes mellitus, current use of oral glucocorticoids, immunocompromised)
- In clients with an acute bronchitis overlying chronic bronchitis, antibiotics may be considered for clients who have two or more of the following symptoms:
 - Increased sputum volume

- Increased sputum purulence
- Increased dyspnea

Choices:

- Amoxicillin 500 mg po tid for 5-7 days

OR

- Doxycycline 200 mg once, then 100 mg po bid for 5-7 days

OR

- Trimethoprim 160 mg / Sulphamethoxazole 800 mg (DS) po bid for 5-7 days

Pregnant or Breastfeeding Women:

- Amoxicillin may be used as listed above.
- DO NOT USE doxycycline and Trimethoprim 160 mg / Sulphamethoxazole 800 mg.

Potential Complications

- Pneumonia
- Post-bronchitis cough

Client Education and Discharge Information

- Recommend hand washing to prevent spread of infection throughout a household
- Inform client that cough may persist for more than 2 weeks
- Inform client that routine antibiotic therapy is not necessary or recommended

Monitoring and Follow-Up

Arrange for follow up in 2-3 days if antibiotics are used and the client's condition is not resolving.

Consultation and/or Referral

Consult with or refer to physician and/or nurse practitioner if unresponsive to treatment or if pneumonia is suspected.

Documentation

As per agency policy.

REFERENCES

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

- Balter, M. S., La Forge, J., Low, D. E., Mandell, L., & Grossman, R. F. (2003). Canadian guidelines for the management of acute exacerbations of chronic bronchitis. *Canadian Respiratory Journal*, *10* (Suppl B), 3B-32B.
- Blondel-Hill, E., & Fryters, S. (2012). *Bugs and drugs: An antimicrobial infectious diseases reference*. Edmonton, AB: Alberta Health Services.
- Blush III, R. R. (2013). Acute bronchitis. *Nurse Practitioner*, *38*(10), 14-20.
- Canadian Pharmacists Association. (2014). *Therapeutic choices* (7th ed.). Ottawa, ON: Author
- Carolan, P. L. (2014, March 18). [Pediatric bronchitis](#).
- Cash, J. C., & Glass, C. A. (Eds.). (2014). *Family practice guidelines* (3rd ed.). New York, NY: Springer.
- Chen, Y. A., & Tran, C. (Eds.). (2011). *The Toronto notes 2011: Comprehensive medical reference and review for the Medical Council of Canada Qualifying Exam Part 1 and the United States Medical Licensing Exam Step 2* (27th ed.). Toronto, ON: Toronto Notes for Medical Students.
- DynaMed. (2015, November 20). [Acute Bronchitis](#).
- DynaMed. (2015, August 10). [Aspiration Pneumonia](#).
- Esherick, J. S., Clark, D. S., & Slater, E. D. (2012). *Current practice guidelines in primary care 2012*. New York, NY: McGraw-Hill Medical.
- Esherick, J. S., Clark, D. S., & Slater, E. D. (Eds.). (2013). [Current practice guidelines in primary care](#). New York, NY: McGraw Hill Medical.
- Fayyaz, J. (2015). [Bronchitis](#).
- Klostranec, J. M., & Kolin, D. L. (2012). [The Toronto notes 2012: Comprehensive medical reference and review for the Medical Council of Canada Qualifying Exam Part 1 and the United States Medical Licensing Exam Step 2](#) (28th ed.). Toronto, ON: Toronto Notes for Medical Students.
- Kuehn, B. M. (2013). Excessive antibiotic prescribing for sore throat and acute bronchitis remains common. *JAMA: The Journal of the American Medical Association*, *310*(20), 2135-2136.
- Tackett, K. L., & Atkins, A. (2012). Evidence-based acute bronchitis therapy. *Journal of Pharmacy Practice*, *25*(6), 586-590.