


Visiting Hours: 24/7

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Bronchiolitis

Definition

Bronchiolitis is an inflammation of the bronchioles (small passages in the lungs) usually caused by a viral infection.

Causes

The disease usually affects children under the age of 2, with a peak age of 3 to 6 months, and is a common, sometimes severe illness.

Respiratory syncytial virus (RSV) is one common cause. Other viruses that can cause bronchiolitis include: parainfluenza, influenza, and adenovirus.

The virus is transmitted from person-to-person by direct contact with nasal secretions or by airborne droplets. Although RSV generally causes only mild symptoms in an adult, it can cause a severe illness in an infant.

Bronchiolitis begins as a mild upper respiratory infection that, over a period of 2 to 3 days, can develop into increasing respiratory distress with wheezing and a "tight," wheezy cough. The infant's breathing rate may increase a lot (tachypnea), and the infant may become irritable or anxious-looking. If the disease is severe enough, the infant may turn bluish (cyanotic), an indication of a critical emergency.

As the effort of breathing increases, parents may see the nostrils flaring with each breath and the muscles between the ribs retracting (intercostal retractions) as the child tries to inhale air. This can be exhausting for the child, and very young infants may become so fatigued that breathing becomes difficult to maintain.

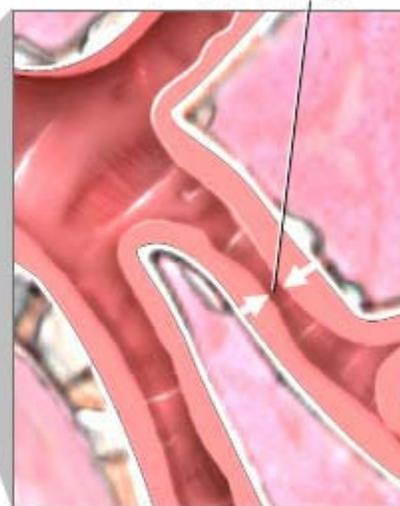
Bronchiolitis is seasonal and appears more frequently in the fall and winter months. It is a very common reason for infants to be hospitalized during winter and early spring. Some children have subclinical infections, that is, few or insignificant symptoms. It is estimated that by the first year, more than half of all infants have been exposed to RSV.

Risk factors include:

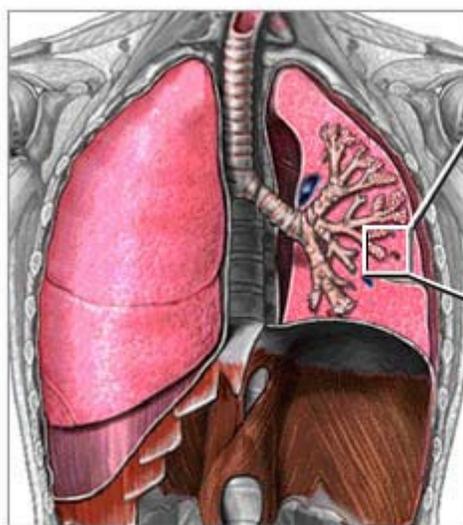
- Being less than 6 months old
- Never being breastfed
- Prematurity (born before 37 weeks gestation)



Bronchial swelling



In bronchiolitis, the airway becomes obstructed from swelling of the bronchiole walls

Alveoli

Younger lungs



- Exposure to cigarette smoke
- Crowded living conditions

Symptoms

- Cough, wheezing, shortness of breath, or difficulty breathing
- Rapid breathing (tachypnea)
- Intercostal retractions
- Nasal flaring in infants
- Fever (variable)
- Bluish skin due to lack of oxygen (cyanosis)

Exams and Tests

- Wheezing and crackling sounds are heard by stethoscope examination of chest.
- Decreased blood oxygen levels are detected.
- Tests often include a chest x-ray and blood gases.
- Samples of nasal fluid may be cultured to determine what virus is present.

Treatment

Antibiotics are not effective against viral infections. Sometimes, no treatment is necessary. Supportive therapy may include oxygen, humidified air, chest clapping (postural drainage to remove secretions), rest, and clear fluids. Other medicines used in the hospital may include albuterol (a medication normally used in asthma) or steroids.

In extremely ill children, antiviral medications (such as ribavirin) are sometimes used. Antiviral treatment may decrease the severity and duration of the illness. To be effective, it must be administered early in the course of the illness.

Outlook (Prognosis)

Usually, the symptoms have resolved within a week, and difficulty breathing usually improves by the third day. The mortality rate is less than 1%.

Possible Complications

- Secondary infection, such as pneumonia.
- Respiratory failure.
- Airway disease, such as asthma that may occur later in life. The relationship between RSV infection and later development of asthma is still not understood, but children who have had bronchiolitis seem to be more likely to develop asthma than those who have not.

When to Contact a Medical Professional

Call your health care provider immediately, or go to the emergency room if the person, child, or infant:

- Has a cold that suddenly worsens
- Develops rapid, shallow breathing
- Experiences flaring nostrils and/or retracting chest muscles in an effort to breathe
- Has difficulty breathing
- Develops a bluish color in the skin, nails or lips
- Becomes lethargic

Prevention

Most cases of bronchiolitis are not readily preventable because the viruses that cause the disorder are common in the environment. Careful attention to hand washing, especially around infants, can aid in the prevention or spread of respiratory viruses.

Family members with an upper respiratory infection should be especially careful around infants. Wash hands frequently, especially before handling the child.

At this date, there is no RSV vaccine available. However, there is an effective product available for infants at high risk for developing severe disease from RSV. The product is Synagis® (palivizumab). Consult your child's physician to determine whether this medication would be appropriate for your child.