

The presumptive diagnosis for this case study is viral croup or laryngotracheobro...

[Education](#)



**ASSIGN
BUSTER**

Diagnosis

The presumptive diagnosis for this case study is Viral Croup or Laryngotracheobronchitis.

Clinical Correlations-Etiological Agent

The Human Para influenza Virus (HPIV), second to respiratory syncytial virus (RSV), is the frequent cause of infections of the upper and the lower respiratory tracts in humans (Collins, 1995).

There are four kinds of HPIV's, all of which possesses different clinical and epidemiological features. The first two kinds of the virus, namely HPIV-1 and HPIV-2 are distinctly responsible for the disease called laryngotracheobronchitis or most famously known as viral croup. Between HPIV-1 and HPIV-2, the latter is more predominantly detected in children with croup (Long, 2003).

The other type of Para influenza is HPIV-3 which is more associated in diseases such as pneumonia and bronchiolitis. HPIV-4 on the other hand is not commonly detected in illnesses. Para influenza virus has an incubation period of 1 to 7 days. It can cause repeated infections within a person's lifetime usually manifested as cold and sore throat (Murray & Nadel, 2000).

Approach to suspected infection

The common symptoms of Human Para influenza Virus (HPIV) is the cold-like symptom such as runny nose, low-grade fever and hoarse cough. Given that the child is negative to the Strep test, the diagnosis is narrowed down into two most probable types of diseases that closely resemble the symptoms

exhibited by the patient. The first disease is the viral croup and the other one is bacterial tracheitis.

Discussion (Characteristics)

In as much as the symptoms are very alike for viral croup and bacterial tracheitis, further analysis boils down to the conclusion that the child is suffering from viral croup instead of bacterial tracheitis.

Both bacterial tracheitis and viral croup cause breathing difficulties which occur frequently in children (as in this case a 22-month old female). Affected individuals experience hoarse cough, forced and noisy breathing, mucus buildup in the larynx, trachea and bronchial tubes and swelling and inflammation in the throat area (Knutson, 2004). All these symptoms are exhibited by the patient.

Note however that the child experiences a low grade form of fever (~99F) instead of a high fever. In most instances of bacterial infection, the fever is expected to be high (> 104F).

Also, it must be taken into account that the causative agents for bacterial tracheitis and viral croup are different. The former is commonly caused by a bacterial infection called *Staphylococcus aureus* (or sometimes *Streptococcus pyogenes*) while the latter is caused mainly by Human Para influenza Viruses (HPIV's), hence, treatment for the two diseases varies as well (Behrman, 2004). The breathing of the child improved dramatically when she was placed in the vaporizer for 30 minutes. In instances when croup is diagnosed, the usual treatment is a vaporizer which helps soothe the swelling in the throat area. On the other hand, patients with bacterial

tracheitis do not respond to these kinds of treatments and may even clinically worsen. They usually require hospitalization and a breathing tube called endotracheal tube to be able to maintain the airway open. Treatment of this bacterial infection is with antistaphylococcal medications such as penicillin or a cephalosporin that covers staphylococcus.

In addition, cases of breathing difficulty and stridor (barking cough) occurs in croup patients between 6 pm and 6 am. This is what was exactly observed when the patient was taken to the emergency room by the mother at 2: 15 am.

Acquisition:

The Human Para influenza Virus (HPIV) can be acquired through airborne droplets from infected persons (through coughing or sneezing). The disease is passed on through physical contact wherein the virus may enter the mucous membrane of the nose and the eyes.

Treatment and Prevention

Viral Croup is commonly treated at home by subjecting the child to a vaporizer (mist) to reduce the swelling of the throat area. Children are also given at times acetaminophen to soothe chest pains. Epinephrine may also be given.

Protection against HPIV's however through vaccination is not yet available. The natural protection-maternal antibodies through mother's milk provide defense against these viruses in the early stages of life. Prevention can done by suppressing the spread of infection by frequent hand washing and avoidance of sharing personal items with persons infected with the virus.

<https://assignbuster.com/the-presumptive-diagnosis-for-this-case-study-is-viral-croup-or-laryngotracheobronchitis/>

Reference:

American Academy of Pediatrics. Para influenza Viral Infections. In: Peter G, ed. 1997 Red Book: Report of the Committee on Infectious Diseases. 24th ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997: 379.

Behrman RE. Nelson Textbook of Pediatrics. 17th ed. St. Louis, Mo: Elsevier; 2004.

Collins PL, Chanock RM, McIntosh K. Para influenza viruses. In: Fields BN, Knipe DM, Howley PM, eds. Fields Virology. 3rd ed. Philadelphia: Lippincott-Raven; 1995: 1205-41.

Glezen WP, Denny FW. Para influenza Viruses In: Evans A, Kaslow R, eds. Viral Infections in Humans: epidemiology and control. 4th Ed. New York: Plenum; 1997: 551-67.

Knutson D. Viral croup. Am Fam Physician. 2004; 69(3): 535-40.

Long, SS. Croup (viral laryngotracheobronchitis). In: Principles and Practice of Pediatric Infectious Diseases. 2nd ed. Elsevier, 2003; 210-211.

Murray JF, Nadel JA. Croup. In: Textbook of Respiratory Medicine. 3rd ed. W. B. Saunders Company, 2000; 960-961.