Parainfluenza Virus

Parainfluenza virus is a single-stranded RNA paramyxovirus that causes croup in children. Croup is an upper respiratory infection that presents with respiratory difficulty and a characteristic barking cough. In adults, it causes mild upper respiratory infections. However, parainfluenza infections can cause inflammation and swelling in the upper airway to the point of obstruction in children. Severe cases present with inspiratory stridor, and airway swelling can be seen on a frontal neck X-Ray indicated by a steeple sign. These cases require immediate medical intervention.



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Characteristics

Paramyxovirus
Parachute-mixer-virus
Paramyxoviruses are a family of negative-sense single-stranded RNA viruses which include Parainfluenzae, RSV, Rubeola (Measles), and Mumps as well as others.

Signs and Symptoms

Croup
Crepe
Croup, also known as laryngotracheobronchitis, is an upper respiratory infection caused by the parainfluenza virus. It presents with respiratory difficulty and a characteristic barking cough. It most commonly affects children under the age of six.

Barking Seal Cough
Seal with Coughing Coffee-pot
Parainfluenza upper respiratory infections present with a characteristic barking cough that resembles the bark of a seal. It is caused by inflammation and swelling of the airways.

Inspiratory Stridor
Inflating Stroller
Parainfluenza infections can cause inflammation and swelling in the upper airway to the point of obstruction. This can cause an inspiratory stridor, which is a high-pitched wheezing sound on inspiration that results from turbulence in the upper airway. Inspiratory stridor is a sign of a medical emergency.

Steeple Sign
Church Steeple
Swelling of the larynx and subglottic regions in parainfluenza infections cause narrowing of the airway. This narrowing can be seen on frontal neck X-Ray as a steeple sign, which refers to the tall and narrow towers on churches known as steeples.

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