

- ss RNA groups

Rabies

Rabies is a viral disease that causes acute inflammation of the brain in humans and other warm-blooded animals. Early symptoms can include fever and tingling at the site of exposure. These symptoms are followed by one or more of the following symptoms: violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness. Once symptoms appear, the result is nearly always death .

Samples of saliva, serum, spinal fluid, and skin biopsies of hair follicles at the nape of the neck are all tested .

Laboratory Investigations

The electroencephalogram (EEG) may be normal or show nonspecific abnormalities in human rabies. Slow wave activities as well as periodic epileptic form activities have been observed . **Hematological and biochemical** studies are usually normal. The cerebrospinal fluid (CSF) analysis may be normal or may show pleocytosis and mild elevation of protein concentration .

The reference method for diagnosing rabies is the **fluorescent antibody test (FAT)**, an immunohistochemistry procedure, which is recommended by the World Health Organization (WHO) .

The RT PCR assays proved to be a sensitive and specific tool for routine diagnostic purposes , particularly in decomposed samples or archival specimens .

Mumps

Mumps, also known as epidemic parotitis, is a viral disease caused by the mumps virus. Initial signs and symptoms often include fever, muscle pain, headache, and feeling tired . This is then usually followed by painful swelling of one or both parotid glands . Symptoms typically occur 16 to 18 days after exposure and resolve after 7 to 10 days . Symptoms in adults are often more severe than in children.



Diagnosis

During an outbreak, a diagnosis can be made by determining recent exposure and parotitis. However, when the disease incidence is low, other infectious causes of parotitis should be considered such as HIV, coxsackievirus, and influenza. Some viruses such as enteroviruses may cause aseptic meningitis that is very clinically similar to mumps.

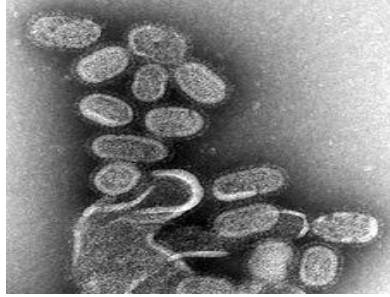
A physical examination confirms the presence of the swollen glands. Usually, the disease is diagnosed on clinical grounds, and no confirmatory laboratory testing is needed. If there is uncertainty about the diagnosis, a test of saliva or blood may be carried out; a newer diagnostic confirmation, using **real-time nested polymerase chain reaction (PCR) technology**, has also been developed. As with any inflammation of the salivary glands, the serum level of the enzyme amylase is often elevated .

Influenza

Influenza, commonly known as "the flu", is an infectious disease caused by an influenza virus. Symptoms can be mild to severe. The most common symptoms include: a high fever, runny nose, sore throat, muscle pains, headache, coughing, and feeling tired. These symptoms typically begin two days after exposure to the virus and most last less than a week. The cough, however, may last for more than two weeks . In children, there may be nausea and vomiting, but these are not common in adults .

Complications of influenza may include viral pneumonia, secondary bacterial pneumonia, sinus infections, and worsening of previous health problems such as asthma or heart failure .

Three types of influenza viruses affect people, called Type A, Type B, and Type C .



Diagnosis :

Preferred respiratory samples for influenza testing include nasopharyngeal or nasal swab, and nasal wash or aspirate, depending on which type of test is used . Samples should be collected within the first 4 days of illness. Rapid influenza diagnostic tests provide results within 20 minutes or less .

- 1. Immunofluorescence, Direct (DFA) or Indirect (IFA) Florescent Antibody Staining** [antigen detection] .
- 2. Viral tissue cell culture** (conventional; yields live virus) , Rapid cell culture (shell vials; cell mixtures; yields live virus) .
- 3. RT-PCR** (singleplex and multiplex; real-time and other RNA-based) and other molecular assays [influenza viral RNA or nucleic acid detection] .
- 4. Rapid Influenza Diagnostic Tests (antigen detection) .**