

## **Leptospirosis (Canicola fever)**

- is a bacterial zoonotic disease caused by spirochaetes of the genus *Leptospira* that affects humans and a wide range of animals, including mammals, & birds. The disease was first described by Adolf Weil in 1886 when he reported an "acute infectious disease with enlargement of spleen, jaundice and nephritis.
- leptospirosis is a rare bacterial infection in humans. The infection is commonly transmitted to by the urine of an infected animal by allowing water that has been contaminated by animal urine to come in contact with unhealed breaks in the skin, eyes or with the mucous membranes.

### Symptoms..

Leptospirosis is a biphasic disease that begins with flu-like symptoms (fever, chills, muscle aches, vomiting, red eyes, abdominal pain, diarrhea intense headache). these symptoms appear after 4-14 days. The first phase resolves, and the patient is briefly asymptomatic until the second phase begins. This is characterized by meningitis, liver damage (causing jaundice), and renal failure.

### Treatment

Leptospirosis treatment is a relatively complicated process comprising two main components: suppressing the causative agent and fighting possible complications. antibiotics such as cefotaxime, doxycycline, penicillin, ampicillin, and amoxicillin.

## **Leprosy or Hansen's disease**

is a chronic disease caused by *Mycobacterium leprae* and *Mycobacterium lepromatosis*. Leprosy is primarily a granulomatous disease of the peripheral nerves and mucosa of the upper respiratory tract, skin lesions are the primary external sign.

Left untreated, leprosy can be progressive, causing permanent damage to the skin, nerves, limbs and eyes.

### Etiology ..

*Mycobacterium leprae* and *Mycobacterium lepromatosis* are the causative agents of leprosy, they are intracellular, acid-fast bacterium, aerobic and rod-shaped, and is surrounded by the waxy cell membrane coating characteristic .

### Clinical sings ..

1-incubation period is range between six months to several years .

Sings can appeared in two form

- a- Tuberculoid leprosy ... is the mild form of the disease. Early signs and symptoms of tuberculoid leprosy can include one or more slightly red patches of skin that appear on the trunk or extremities. Sings may developed to **Skin** stiffness and dryness , Loss of fingers and toes , Eye problems, which leads to blindness , Severe pain , Muscle weakness, especially in the hands and feet , Enlarged nerves, especially those around the elbow (ulnar nerve) and knee (peroneal nerve).

**b- Lepromatous Leprosy...** Lepromatous **leprosy** (also known as multibacillary leprosy) is the severe form of leprosy. Signs and symptoms of lepromatous leprosy can include a symmetrical skin rash more commonly found on the: Elbows , Knees , Face , Ears ,other important signs include, Thickened skin on face, Nasal stuffiness, Bloody nose , Laryngitis, Swelling of the lymph nodes in the groin, Enlargement of male breasts

Treatment...

24-month treatment using rifampicin, clofazimine, and dapsone.

### **Swine influenza**

Is a respiratory disease of pigs caused by type A influenza virus with high level of illness and low mortalities in pigs. the disease affected human. The viruses exist in three types A,B & C. Of these only type A is significant in pigs, which have different subtypes such as(H1N1,H1N2,H3N1,H3N1,H4N6)and others .as H refer to hemagglutination and N refer to neurinization.

- The 1st outbreak registered in 1918(Spanish Flu)
- The viruses can reassort (swap genes) and new viruses that are a mix of swine ,human,and /or avian can emerge
- The new swine flu virus H1N1 were detected firstly on April,2009(USA,Mexico& Canada),it call Quadruple virus
- It can transmitted directly from pigs-pigs ,pigs- human , human -human (Airborne transmission through the aerosols mostly through coughing & sneezing), human -pigs
- Spread can occur through contact with infected pigs which shed the virus in their saliva ,nasal secretions & faeces
- Spread & transmission dose not occur through chlorinated water or through cooked food

Symptoms in human...

- fever, lack of appetite
- cough ,runny nose , sore throat
- headache & body aches
- chills & fatigue
- significant number with diarrhea,nausea, vomiting
- sever illness and death.

## TREATMENT....

There are four influenza antiviral drugs approved for Swine Flu. for Treatment & prevention

- \*Oseltamivir (Sensitive)
- \*Zanamivir (Sensitive )
- \*Amantadine (Resist)
- \*Rimantadine(Resist)
  
- **What You Can Do to Stay Healthy**
  - Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
  - Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hands cleaners are also effective.
  - Avoid touching your eyes, nose or mouth. Germs spread that way.
  - Stay home if you get sick, and limit contact with others to keep from infecting them.
- **Follow public health advice** regarding school closures, avoiding crowds and other social distancing measures.
- **Develop a family emergency plan** as a precaution. This should include storing a supply of food, medicines, facemasks, alcohol-based hand rubs and other essential supplies.

## West Nile fever

It's a viral disease caused by family *Flaviviridae* , found in both tropical and temperate regions, It mainly infects birds, but is known to infect humans, horses, dogs, cats, bats, and domestic [rabbits](#). The main route of human infection is through the bite of an infected mosquito.

Symptoms...

The disease has three different effects on humans.

- The first is an asymptomatic infection
  
- the second is a mild febrile syndrome termed West Nile Fever, which manifested by, febrile stage has an incubation period of 2 to 8 days followed by fever, headache, chills excessive sweating, weakness, lymphadenopathy (swollen lymph nodes), drowsiness, pain in the joints and symptoms like those of influenza. Occasionally there is a short-lived rash and some patients show gastrointestinal symptoms including nausea, vomiting, loss of appetite,

or diarrhea. All symptoms are resolved within 7 to 10 days, although fatigue can last for some weeks and lymphadenopathy can take up to two months to resolve.

- The third is a neuroinvasive disease termed West Nile meningitis or encephalitis. The more dangerous encephalitis is characterized by similar early symptoms but also a decreased level of consciousness, sometimes approaching near-coma. Deep tendon reflexes are hyperactive at first, later diminished. There are also extrapyramidal disorders. Recovery is marked by a long convalescence with fatigue. An atypical case of West Nile encephalitis presenting as jaw pain has been described.

Treatment...

using ribavirin, with intravenous immunoglobulin, or alpha interferon may control the cases some times .

### **Nairobi Sheep Disease**

Is a viral disease & one of the most pathogenic diseases of sheep and goats results in a hemorrhagic gastroenteritis with very high morbidity and mortality

#### **Etiology...**

A tick-borne virus *Nairovirus* (family Bunyaviridae).& Ganjam virus

In human...

NSDV or Ganjam virus can cause a mild, influenza-like disease in humans. The clinical signs may include fever, headache, back and abdominal pain, joint pains, nausea and vomiting. Infections transmitted through tick bites, needles injuries or other means. NSDV infections are reported to be rare in African laboratory workers, but several Ganjam virus infections have been reported from laboratories in India. Antibodies to either NSDV or Ganjam virus have also been found among the general population, laboratory workers, and/or agricultural workers in Uganda, India and Sri Lanka. Investigators should take precautions to prevent infections when working with these viruses

## **Plague...**

Plague is a life-threatening infection caused by the organism *Yersinia pestis*. Infected fleas transmit *Y. pestis* primarily among rodents.

Symptoms...

There are three forms of plague...

### **Bubonic plague**

Signs and symptoms of bubonic plague generally appear within two to eight days of a plague-infected fleabite. After bitten, the bacteria travel through lymphatic system, resulting enlarged lymph node (bubo) is usually 1 to 10 cm in diameter, swollen, painful and warm to the touch. The bubo usually develops in groin, but may also appear in neck, depending on where the flea bit you. Signs and symptoms of bubonic plague include, Buboes — swollen, painful, warm lymph nodes, Sudden onset of fever and chills, Headache, Fatigue or malaise, Muscle aches

### **Septicemic plague**

Septicemic plague occurs when plague bacteria multiply in bloodstream. If septicemic plague occurs as a complication of bubonic plague, buboes may be present, Signs and symptoms include, Fever and chills, Abdominal pain, diarrhea and vomiting, Bleeding from your mouth, nose or rectum, or under your skin Shock, Blackening and death of tissue (gangrene) in your extremities, most commonly your fingers, toes and nose .

### **Pneumonic plague**

Pneumonic plague which can occur as a complication of another type of plague or by inhaling infectious droplets, is the least common form of plague. But it's also the most rapidly fatal. Early signs and symptoms, which generally occur within a few hours to a few days after inhaling contaminated droplets, include: High fever, Weakness, Signs of pneumonia, including chest pain, difficulty breathing and a cough with bloody sputum, Nausea and vomiting, Pneumonic plague progresses rapidly and may cause respiratory failure and shock within two days of infection.

Complications...

Complications of plague may include:

Gangrene of fingers and toes resulting from clots in the small blood vessels of extremities, Severe shock, Sudden lung failure (acute respiratory distress syndrome, septicemia, meningitis & Death

Treatment...

1-Streptomycin and gentamicin are the most effective drugs against plague

2- intravenous fluids and oxygen may be necessary