Dengue Fever

Dengue fever is a mosquito-borne viral infection that occurs in tropical and subtropical areas of the world. The virus is transmitted by female mosquitoes mainly of the species Aedes aegypti. The disease causes flu-like symptoms and can develop into severe dengue, also known as dengue hemorrhagic fever, which can cause bleeding, low platelet levels, and even death.

Causes:

Dengue is caused by any one of four related viruses transmitted by mosquitoes. These viruses are known as DENV-1, DENV-2, DENV-3, and DENV-4. When a mosquito bites a person infected with a dengue virus, the virus enters the mosquito. When the infected mosquito then bites another person, the virus enters that person's bloodstream.

Symptoms:

Symptoms typically begin three to fourteen days after infection and include high fever, headache, vomiting, muscle and joint pains, and a characteristic skin rash. Severe cases can cause dengue hemorrhagic fever, which leads to bleeding, blood plasma leakage, and potentially death.

Prevention:

Prevention includes protecting against mosquito bites by using insect repellent, wearing long-sleeved clothing, and eliminating standing water where mosquitoes breed. There is a vaccine available in some countries for people who have previously been infected.

Treatment:

There is no specific treatment for dengue. Supportive care includes rest, fluids, and medications to reduce fever and pain. Hospital care may be needed for severe cases to manage symptoms and monitor the patient's condition.

Tuberculosis (TB)

Tuberculosis (TB) is a potentially serious infectious disease that mainly affects the lungs. The bacteria that cause TB are spread from one person to another through tiny droplets released into the air via coughs and sneezes.

Causes:

TB is caused by a bacterium called Mycobacterium tuberculosis. It spreads through airborne particles from someone who has an active TB infection. Latent TB infection occurs when the bacteria are in the body but inactive, causing no symptoms.

Symptoms:

Common symptoms include a persistent cough lasting more than three weeks, coughing up blood, chest pain, fatigue, weight loss, night sweats, chills, and fever. TB can also affect other parts of the body, including kidneys, spine, and brain.

Prevention:

TB can be prevented through vaccination with the Bacillus Calmette-Guérin (BCG) vaccine, especially in children. Early detection and proper medical treatment of infected individuals are critical to preventing the spread of TB.

Treatment:

Treatment typically involves taking several antibiotics for a minimum of six to nine months. Drug-resistant TB requires longer treatment with second-line medications. Completing the entire course of therapy is essential to avoid resistance and relapse.

Malaria

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is common in tropical and subtropical climates where the parasites can thrive.

Causes:

Malaria is caused by Plasmodium parasites. There are five parasite species that cause malaria in humans, and two of these species-Plasmodium falciparum and Plasmodium vivax-pose the greatest threat. The parasites are spread to humans through the bites of infected mosquitoes.

Symptoms:

Symptoms usually appear 10 to 15 days after the infective mosquito bite. Common symptoms include fever, headache, and chills. If not treated, malaria can quickly become severe and cause death. Severe symptoms may include anemia, respiratory distress, or organ failure.

Prevention:

Preventive measures include using insecticide-treated mosquito nets, indoor spraying with insecticides, and taking antimalarial medications when traveling to high-risk areas. Eliminating standing water sources also helps prevent mosquito breeding.

Treatment:

Malaria is treated with prescription drugs to kill the parasite. The type of drug and length of treatment depend on the type of malaria parasite, the severity of symptoms, and the location where the infection was acquired.

Typhoid Fever

Typhoid fever is a bacterial infection caused by Salmonella typhi. It spreads through contaminated food and water and is more common in areas where sanitation is poor.

Causes:

The disease is caused by the ingestion of food or water contaminated with the feces of an infected person. Once ingested, the bacteria multiply and spread into the bloodstream.

Symptoms:

Symptoms include prolonged fever, weakness, stomach pain, headache, loss of appetite, and sometimes a rash. In severe cases, it can cause intestinal perforation, leading to internal bleeding and death if untreated.

Prevention:

Effective prevention strategies include vaccination, improved sanitation, access to clean drinking water, and proper food handling. Handwashing with soap is also an important preventive measure.

Treatment:

Typhoid is treated with antibiotics that kill the Salmonella bacteria. With appropriate antibiotic therapy, most people recover in a few days, but without treatment, typhoid fever can be fatal.

Hepatitis B

Hepatitis B is a serious liver infection caused by the hepatitis B virus (HBV). It can become chronic, leading to liver failure, cancer, or cirrhosis.

Causes:

The virus is transmitted through contact with infectious body fluids, such as blood, semen, or vaginal fluids. Common modes of transmission include sexual contact, sharing needles, and from mother to baby at birth.

Symptoms:

Acute hepatitis B can cause symptoms like fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, and jaundice. Chronic hepatitis B may not cause symptoms for decades until liver damage has occurred.

Prevention:

Vaccination is the most effective way to prevent hepatitis B. Other preventive measures include avoiding sharing needles, using condoms during sex, and ensuring blood products are screened.

Treatment:

There is no specific treatment for acute hepatitis B, but chronic cases can be managed with antiviral medications. These medications help reduce the virus in the body and prevent liver damage.