Diphtheria

Diphtheria is an infectious disease caused by a bacterium *Corynebacterium diphtheriae* with its toxin. The disease is characterized by an inflammatory reaction on the mucous membranes of the nose, throat, and skin, where a whitish coating develops. The coating can spread from the throat to the trachea and bronchi, causing suffocation.

Transmission

The source of infection is a patient or carrier who carries toxigenic strains of bacteria in the nasopharynx or on the skin. The duration of infectiousness varies, rarely exceeding 2 to 4 weeks. In patients treated with antibiotics, infectiousness ceases after 1 to 2 days. The infection is transmitted by droplets, indirectly or directly, through coughing, sneezing, talking, objects, and even food.

Epidemiology

Diphtheria occurs mainly in people living in poor socio-economic conditions. Most cases occur in late autumn and winter months. Immunity to the disease gradually declines after vaccination. The incidence of diphtheria has declined dramatically in the developed world over the past 50 years, but the disease still occurs in India, Nigeria, Brazil, Indonesia, and the Philippines. In 1990, a large-scale diphtheria epidemic broke out in former Soviet Union, which was difficult to contain. The last case of the disease in Slovenia was recorded in 1967.

Incubation period and course of the disease

The infection can be asymptomatic or manifest as a severe, life-threatening disease. The clinical manifestations depend on the site of infection, the resistance of the infected person, the virulence of the bacteria, and the possible spread of toxins in the blood.

The time from infection to onset of disease is 1 to 6 days. Clinically. Diphtheria occurs in two forms: as local diphtheria, resulting from infection of the upper respiratory tract or skin, and as diphtheria resulting from the spread of toxin into the blood and distant organs.

Local diphtheria is characterized by the appearance of pseudomembranes, which are whitish coatings that gradually thicken and can obstruct breathing, especially if they spread to the throat, trachea, and bronchi. The patient becomes hoarse, gradually loses their voice completely, and begins to cough barkingly. Wheezing and difficulty breathing occur, and the patient turn blue. Pseudomembranes can completely block the airways, leading to suffocation.

The most serious and common complications are due to the spread of the toxin in the blood and its effect on the heart and central nervous system.

Diagnosis

The diagnosis of diphtheria is clinical, based on the symptoms and the appearance of pseudomembranes. The diagnosis is confirmed by laboratory tests.

Treatment

The specific treatment for diphtheria is antitoxin therapy. Antibiotics eliminate the bacteria, thereby preventing toxin production and the spread of infection. Antibiotic treatment must last at least 14 days to eliminate the bacteria from the throat. The patient must remain in isolation throughout the treatment and until tests confirm that the bacteria are no longer present in the throat after the antibiotic treatment has been completed.

Prevention

Diphtheria can be effectively and safely prevented by vaccination. Three doses of vaccine are required for the primary vaccination series. Booster doses are given every 10 years with one dose.

If people have been in contact with a patient with confirmed diphtheria, a throat swab test is performed to determine the possible presence of this bacterium. If the bacteria are present in the throat of these people and they have been vaccinated against diphtheria, we start treating them with antibiotics. People who have been in contact with a patient and have not been vaccinated are vaccinated and treated with antibiotics.