

Botulism

Botulism is a disease caused by a toxin produced by a bacterium that lives in soil, fresh and saltwater, and in the intestines of humans and animals. If the bacterium contaminates food, it produces the toxin under favourable conditions, which affects the nervous system by causing muscle paralysis. The infection is very rare in Slovenia. In recent years, we have received between zero and two reports per year.

Cause

Botulism is caused by the bacterium *Clostridium botulinum*, which releases toxins and produces spores that can survive in unfavourable living conditions.

Incubation period

The time from infection to the onset of symptoms ranges from 6 hours to 8 days, with an average of 12 to 36 hours.

Transmission

Most infections result from the ingestion of home prepared foods that are improperly preserved. Illness occurs due to food that has not been cooked properly or due to storing food at high temperatures. The bacteria find favourable living conditions in such foods, multiply and release toxins. Food contaminated with bacteria may have an altered appearance, colour, smell and taste. Cans may be bulging. The infection is most commonly transmitted through dried meat, sausages, and improperly canned vegetables and fruits.

A specific form of botulism occurs in infants due to the consumption of honey, which often contains large amounts of this bacterium.

Wound botulism in intravenous drug users is described.

Susceptibility to infection

Susceptibility to infection is general. Infants and patients with chronic gastrointestinal diseases, in whom the intestinal flora is altered, are more susceptible to infection.

Signs of the disease

Six hours to eight days after ingesting food containing the toxin, digestive problems occur: nausea, vomiting, pain under the breastbone, abdominal pain, and short-lived diarrhoea followed by constipation. This is followed by muscle paralysis, starting in the upper body and spreading downward. As a result of paralysis of the eye muscles, visual disturbances occur, including double vision, squinting, dilated pupils that do not react to light and drooping eyelids. Later, patients develop difficulties with speech and swallowing and lose their voice. In severe cases, paralysis of the respiratory muscles, arm

muscles, leg muscles, or other muscles may occur. Patients remain conscious and do not have a fever. Recovery is slow and takes several weeks, or even months.

Infectiousness

Disease is not transmitted between people.

Treatment

The primary treatment is symptomatic; we alleviate the patient's symptoms.

Prevention of infections

Strict personal hygiene, particularly hand hygiene and the hygiene of containers, utensils, and surface when preparing food for canning.

Proper methods for preserving fruits and vegetables (a temperature of 120 °C for 10 minutes kills bacteria in food).

Proper heat treatment of food (the centre of the food must reach 85 °C for at least 30 minutes). Cold-smoked foods must also be heat treated; ham must be cooked (in boiling water) for at least one hour per kilogram of meat.

Proper food storage (in the refrigerator at below 4 °C and in the freezer at below –18 °C).

Foods that have changed in colour, smell or taste should be discarded, as should bulged cans.

Infants should not consume honey during the first weeks of life, as it may contain spores of the bacterium.