



PROBLEMS OF COURSE, CLINICAL AND DIAGNOSTIC PROBLEMS OF BOTULISM IN FERGANA PROVINCE

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Abstract: In this article, the complicated course of botulism in children of school age is presented in clinical observation. Also, the tactics of laboratory tests, treatment approach and clinical effectiveness of treatment are indicated.

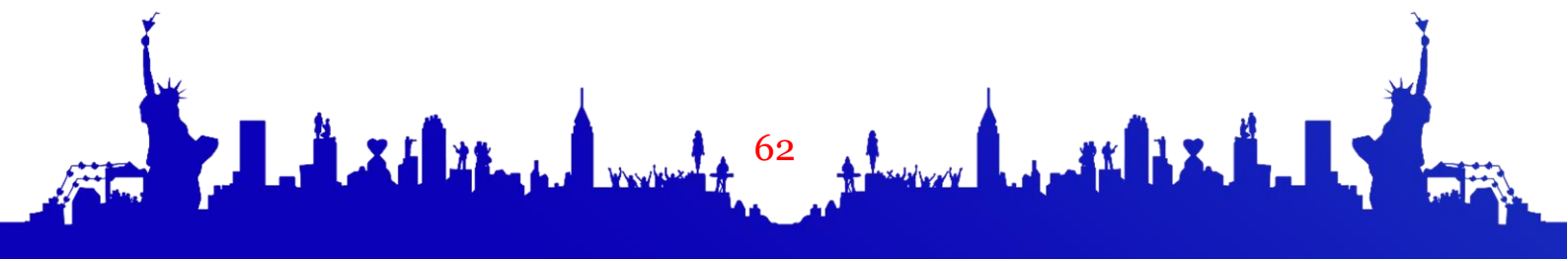
Key words: botulism, botulotoxin, dysphagia, aphonia, apnea, tachypnea, ptosis, diplopia, mydriasis, anisocoria.

Relevance: Botulinum neurotoxin is one of the most potent and lethal substances. As little as 1 ng/kg can be fatal to humans. Scientists estimate that about 1 g of botulinum toxin is capable of killing 1 million people. Since even small amounts of the toxin are lethal, it could be used as a weapon of bioterrorism. All forms of botulism are fatal and are considered emergencies. The toxin is rapidly absorbed by the digestive system, so many people are poisoned even after consuming small amounts of contaminated food.

The surviving history of botulism: The disease was first linked to German sausage in 1735. The infectious disease was associated with food poisoning after eating sausage. In 1870, a German physician named Müller named the disease botulism, after the Latin word for sausage. The Clostridium bacteria were first identified in 1895, and the neurotoxin was isolated by Dr. Edward Schantz in 1944. Botox was approved for use by the Food and Drug Administration in 2002 for cosmetic improvement and wrinkle reduction.

According to statistics, from 1735 to 1924 there were 4144 cases of botulism in Western Europe, of which 1271 people died. There have been 417 botulism outbreaks in France, with more than 1,000 deaths. There were 101 outbreaks of botulism in Russia from 1818 to 1913, during this period, 609 people fell ill and 283 people died (46.8%). From 1920 to 1939, according to press reports, there were 62 botulism epidemics in the former USSR, 674 people fell ill and 244 people died (36.2%).

Clinical features: The incubation period of the disease is from 2 hours to 8 days. Symptoms of foodborne botulism usually begin 18-36 hours after eating contaminated food, but symptoms can appear as early as 6 hours or as late as 10 days.





The classic symptoms of botulism include: blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness (leading to flaccid paralysis).

Differential diagnosis: The patient's history and physical examination may suggest botulism, but these tests alone are not sufficient to diagnose botulism. The symptoms of botulism are similar to those of other diseases, such as stroke, Guillain-Barré syndrome (another disease that causes muscle paralysis), and myasthenia gravis (a condition that causes drooping eyelids). Special tests are required to rule out these other diseases. The most direct way to confirm the diagnosis is to detect botulinum neurotoxin in the patient's blood or feces. This is done by injecting the patient's blood or feces into a mouse. An equal amount of blood or feces is taken from the patient, neutralized with antitoxin, and injected into the mice. The same sample is injected into another mouse without neutralization. If the disease is present, the first mouse survives and the second dies. These tests help distinguish botulism from infectious diseases caused by *Escherichia coli*, salmonella and other bacteria.

Results of a special study: Botulism is considered a seasonal disease, and botulism cases among the population are mainly recorded from November to May.

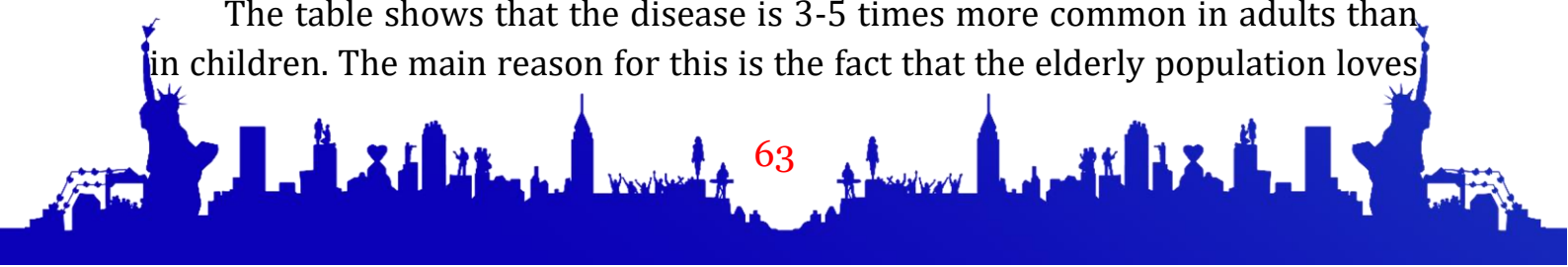
Биз 1-жадвалда Республика ихтисослаштирилган эпидемиология, микробиология, юқумли ва паразитар касалликлар илмий-амалий маркази Фарғона филиалида 2017-2023 йилларда ботулизм ташхиси билан ётиб даволанган беморлар тўғрисидаги маълумотларни келтирдик.

Table 1

The occurrence of botulism in adults and children

No	Years	Total number of cases	Adults	Children
1	2017	4	3	1
2	2018	12	11	1
3	2019	6	6	
4	2020	6	5	1
5	2021	10	8	2
6	2022	6	5	1
7	2023	10	8	2

The table shows that the disease is 3-5 times more common in adults than in children. The main reason for this is the fact that the elderly population loves





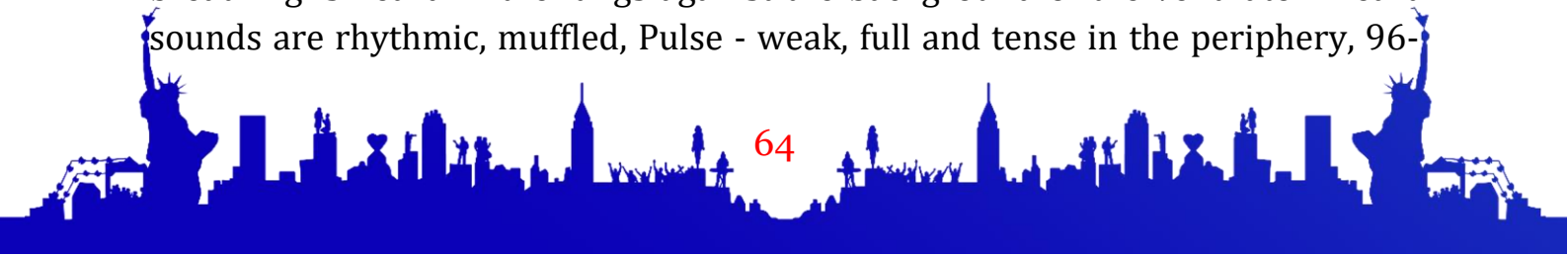
to consume products such as pickled cucumbers, tomatoes, squash, peppers, mushrooms, canned cabbage, eggplant caviar, and smoked fish prepared at home.

Clinical observation: During practical training at the Fergana branch of the Republican Specialized Epidemiology, Microbiology, Infectious and Parasitic Diseases Scientific-Practical Center, M. A 16-year-old patient named.

Patient's complaint: According to the doctor who brought him in - a resuscitator, relatives (aunt, aunt), and the staff on duty: inability to swallow, nausea and vomiting, general weakness, helplessness, dizziness, staggering like a drunk, weakness in the legs and arms, inability to breathe independently, increased body temperature, drooping eyelids and numbness, seeing things in pairs and changing his voice in the first few days, and discomfort when moving his legs and arms while lying down.

Epidemiological history: On 06.12.2023, the patient opened and drank canned tomato-cucumber juice at home with his father during lunch. In the morning, he had breakfast and went to school. According to the school nurse, he complained of headaches and dizziness throughout the day. When he came home, his brother gave him tea and bread, and he felt nauseous and vomited. Since the vomit was brown, he was taken to the Zilkha emergency department of the Altirik district. He has not received injections in the last 6 months and has not traveled abroad. The patient has not received blood or blood products.

On examination: The patient's general condition is serious during the examination. The response to vision is inadequate. He is unconscious, responds by moving his hands when asked in a loud voice, and the reaction to the environment is very weak. Muscle tone in the limbs is reduced. Breathing is through an endotracheal tube. The pupils are OD=OS, dilated, there is no photoreaction to light. He cannot swallow, a nasogastric tube is inserted. The patient is lethargic, listless. The palms of the hands and feet are numb, and his movements are involuntary. He answers questions slowly with gestures. His eyelids are somewhat numb, drooping (ptosis), and his face is swollen. An intubation tube is tamponade in the oral cavity. The body is straight, there are no deformities or peripheral edema. Neck muscle rigidity and meningeal signs are negative. Peripheral lymph nodes are not enlarged and are not palpable. Lips and tongue are dry, with a runny nose. Body temperature is 37.0C. The skin and visible mucous membranes are slightly pale, the skin is clean and dry. Coarse breathing is heard in the lungs against the background of the ventilator. Heart sounds are rhythmic, muffled, Pulse - weak, full and tense in the periphery, 96-





100 times per minute, arterial blood pressure is 96/42 mmHg. The abdomen is soft, but there is no breath, no pain. The liver and spleen are not palpable. Intestinal peristalsis is audible. The stool is yellow, slightly liquid, brown in color. Conclusion: The patient's condition is extremely serious, with intoxication of the body, bulbar syndrome, respiratory failure grade 3, and heart failure grade 2 due to respiratory distress syndrome.

Initial diagnosis: Botulism. Bulbar paralytic form. Very severe. Complications: acute respiratory failure grade 3, acute cardiovascular failure grade 2.

Conclusions:

1. Due to the rarity of the disease, in many cases, doctors neglect to collect epidemiological history, leading to diagnostic errors. According to the results of clinical and epidemiological studies, in many cases, instead of botulism, the diagnosis is made with acute intestinal infection, acute cerebral circulation disorder, myasthenia gravis, hypertensive crisis, encephalitis.

2. During the seasonal outbreak of the disease, conduct sanitary and educational work on the origin and complications of botulism among medical workers, workers of industrial enterprises, organized and unorganized youth, and community citizens' meetings.

3. A general practitioner must have the necessary and sufficient knowledge for early detection of botulism and provision of emergency care. Early diagnosis and timely pathogenetic treatment reduce the complications and mortality of botulism.

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