

Prevent Serious Infectious Diseases and Their Spread Precautionary Measures

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Abstract:

There are a number of infectious diseases today that we need to study and know about. Any outbreak of an infectious disease can lead to an epidemic. An epidemic is the spread of an infectious disease in a country, province, or country. The number of patients is 5-10 times higher than usual.

Key words: Epidemic, Epiphytosis, Epizootic, Whooping cough, rabies, Cowpox, Ebola fever, Lassa, Marburg, Machupo.SARS-CoV-2, - (Covid-19)

Introduction

In today's complex conditions, our main task must be to ensure the continuation of the comprehensive reforms started in our country, the bold steps we are taking towards building a new Uzbekistan. It is necessary to ensure economic and political stability in the conditions of global crisis, address existing local problems, support our compatriots who need help, and realize the dreams and hopes of our youth.

According to the analyzes of the World Health Organization, the threat of a pandemic may still remain for a long time. So, no one can say for sure how long the trials at the beginning of mankind will last. According to the forecasts of the United Nations, the World Health Organization, and influential experts, the pandemic can increase problems such as crisis situations, social tension, and poverty all over the world.

Literature Analysis and Methodology

It is clear to all of us that the socio-economic landscape of the world will definitely change after the pandemic. Accumulated experience shows that countries with a strong and effective management system will be able to overcome the threat of a pandemic in a timely manner. This is also proven by Uzbekistan's experience of fighting during the pandemic. Our President Sh. Mirziyayev said in this year's address that the main requirement in the implementation of these very important tasks is to ensure effective cooperation between state and community institutions, to increase efficiency and quality in this process.

Nowadays, there are a number of infectious diseases and it is very important for us to learn and know about them. An outbreak of any infectious disease will cause an epidemic. An epidemic is a widespread spread of infectious diseases in a country, region or country. The number of patients will be 510 times more than usual.

All infectious diseases of animals are divided into 5 groups:

Group 1 - alimentary infections. Passes through soil, feed, water. The digestive system is damaged. Such infections include anthrax, measles, mumps, and brucellosis.

Group 2 - respiratory infections. Damage to mucous membranes of the respiratory tract and pharynx. The infection is transmitted mainly by airborne droplets. These diseases include parainfluenza, exotic zotiljam, sheep and goat pox, carnivore plague.

Group 3 - transmitted infections. The blood-sucking joint moves with the help of legs. Triggers are present in the blood all the time or in separate periods. These diseases include encephalomyelitis, tularemia, infectious anemia of horses.

Group 4 - infections whose causative agents pass through the skin without the participation of intermediaries, whooping cough, rabies, cowpox are among these diseases.

Group 5 -infections of unknown origin.

The sources of the epizootics of extremely dangerous diseases are floods, floods, earthworks without agreement with the state veterinary service, imported animals, food products, fodder and other means, places where wild birds flying from abroad gather, where there are outbreaks of highly dangerous diseases, there may be an increase in the number of rodents and insects and biological terrorism.

Discussion and Results

Most of the diseases it causes in humans are infectious. Their origin is related to the entry of living pathogens into the human body and their reproduction under certain conditions, as well as their return to the external environment. As a result, an infected person becomes a source of disease, spreading the germ (causing agent) of the disease to others. Infectious diseases are caused by microscopic organisms that cannot be seen, namely viruses. Although they have a very simple structure, they breathe, feed and reproduce like other living organisms. One of the characteristic features of infectious disease agents is that when they get into the body and multiply, they release toxins (poison) and disrupt the activity of tissue cells. Each disease-causing agent has its own appearance and causes "its" disease. Different pathogens produce different toxins that have different effects on the organism and have their own "habitat" in the human body, that is, for the reproduction of the pathogenic microbe. chooses the most comfortable fabric. These characteristics, which apply to one type of microbe, are called specific characteristics. These specific characteristics of pathogens determine the presence of a particular infectious disease. For example, the sweat bacterium causes only sweat stomatitis. Therefore, any infectious disease is caused by the entry of a living specific pathogen into the body and its reproduction. If there were no barriers to the reproduction of viruses, people would die from the effects of the toxins they secrete. However, the human body has the ability to fight against microbes, that is, to kill them and to neutralize (detoxify) the poisons released by them. This ability is resistance or immunity to infectious diseases. There are innate and acquired types of immunity. Innate immunity refers to the resistance to a disease that is inherited only in a certain species, that is, an animal or a person, which

determines the resistance to certain diseases. For example, only pigs are infected with swine fever. Humans and other species of animals are not affected by this disease. Acquired immunity is formed after being infected with a certain infectious disease or after a special vaccination. Vaccination refers to the artificial introduction of killed or weakened infectious agents or their neutralized toxins (poisons) into the human body. After vaccination, the pathogen is neutralized by antibodies developed against this pathogen in the body.

Viruses can be transmitted from a sick person or animal to a healthy person in the following ways:

1. The contact route is transmission due to the germ entering from a part of the body as a result of being with an infected person, or using the items of an infected person (items touched by urine, feces and sputum).
2. Alimentary route - transmission of the disease through the mouth by eating food contaminated with feces, urine, sputum, etc.
3. Air-droplet route - infection due to germs entering the body through the respiratory organs in the droplets released when a sick person sneezes, coughs, or speaks.
4. Transmissible - transmission due to the entry of microbes into the body as a result of the bite of a tick or other insect.

Virus carriers can also be so-called virus carriers. These include people who have been sick before, but have not fully recovered, because they do not have symptoms and signs that indicate the symptoms of the disease. Such people have living disease viruses in their bodies, which a person does not notice, but becomes an infectious factor for other people. We will consider several infectious diseases below.

Origin of SARS-CoV-2 -Coronavirus -In the last days of 2019, a new coronavirus appeared in Wuhan, China. Its impact was first noticed in the mass media: news, analysis, and scientific articles about SARS-CoV-2 began to be published. A few months later, by the middle of March 2020, we were almost surrounded by sentences starting with or involving this word. Today, there is no one who does not know the word "coronavirus", from a child with a tongue sticking out to an old man on his deathbed. The latent period of coronavirus infection lasts from 2 to 14 days. Currently, the spread of the virus is mainly caused by close human-to-human contact. Its symptoms are fever, cough and shortness of breath. People of all ages can get the virus. The disease may be more severe in people who are old, have chronic diseases, and have weakened immunity. At the moment, experts of the World Health Organization and the countries of the world are fighting against this virus.

Prevention - first of all, it is necessary to follow the rules of personal hygiene. The importance of washing hands frequently and thoroughly with soap and water is immeasurable. In addition, alcohol disinfection should be used. Do not forget to wash your hands during and before and after eating, as well as before eating and when returning from the presence of pets. First of all, you should avoid close contact with people who have cold or flu symptoms. Do not touch the face with your hands. As much as possible, reduce going to crowded places like markets, railway stations, and big stores. Cover your mouth and nose when you cough, runny nose or sneeze It is important to wash your hands thoroughly after handling meat and dairy products.

Meat products should be cooked thoroughly. Avoid eating raw or undercooked meat products. When the first symptoms of the disease are observed, stay at home and consult a doctor

immediately. Development of the disease - The clinic of the disease appears 2/4 days after the virus infection. The disease begins acutely, with an increase in body temperature, general signs of intoxication that have not developed clearly. Also, when breathing in children, chest pain, pneumonia, cough, dry whistling sounds are heard. Treatment methods - at first, the coronavirus infection is treated like a common cold, where it is necessary to drink plenty of fluids, take vitamins and, if necessary, antipyretic drugs. Depending on the symptoms that appear, new drugs can be added.

Since the bacterial infection here is secondary, antibiotics are added only after febrile chills (temperature above 38.5 and persisting for more than five days) or laboratory-confirmed microbial flora. Antibiotics are often given prophylactically, so antibiotics approved for the management of pneumonia outside the hospital in an outpatient setting are mostly given as tablets. Injections with antibiotics belonging to the reserve group are carried out only in the hospital, for patients in the OSV. They should be used only in intensive care, when life and health are at stake. Hormonal therapy should be used only when respiratory failure occurs. Before the ninth day of the disease, it is rarely used when there are imperceptible changes in the blood. Hormones do not have a preventive effect. Its early appointment can worsen the course of the disease. The same is true with blood thinners. They are not used for treatment in outpatient settings. It is absolutely impossible to use immunostimulating drugs. It is not at all necessary to activate the uncontrolled activity of the immune system in a disease that is not well studied.

Anthrax has been widespread since ancient times and has caused many casualties over the centuries. Anthrax kills millions of pets and infects many people every year. In ancient times, anthrax was called "Holy fire" and "Persian fire". In 1788, the Russian scientist S.S. Andreevsky, during an epizootic in Siberia, infected himself with this disease from an animal and proved that the disease that occurs in humans and animals is the same, and proposed to call this disease "Siberian typhus". He described the pathological anatomy of anthrax, clinical types, developed treatment and preventive methods. The origin of the disease. The microbe causing anthrax was first discovered by the Russian scientist Braueler in 1855 from the body of a horse that died of this disease. In 1886, R. Koch managed to obtain its pure culture. The anthrax microbe is in the structure of a rod 5-8 μm long and 1-1.5 μm thick, and is killed in a few minutes under the influence of high temperature and various disinfectants. Spores are very resistant to the external environment, spores can be stored for several hours at 70 degrees. It decomposes after 30 minutes when boiled. Salted meats are stored for a long time.

Epidemiology of the disease. The source of anthrax disease is domestic animals, mainly small and large horned animals, and horses. Infected animals excrete the germs in their urine and feces. After the animal dies, its skin, fur, internal organs and blood remain infectious for a long time. People are infected with the disease through close contact with live and dead animals. Anthrax can be found mainly in shepherds, veterinarians, aviary workers, tannery workers, furriers and old-timers.

Disease progression. Anthrax is transmitted by contact, alimentary and airborne. A part of the anthrax bacillus that enters the human body is taken by special cells in the blood - phagocytes, and the rest spreads through the body through lymph and blood. Anthrax germs reach the liver, spleen, lungs, intestinal wall, subcutaneous connective tissue. Later, in these organs, the microbe dies under the influence of the body's defense forces or creates foci of infection. When the body of a patient who died from anthrax is dissected and examined, it can be seen that the color of the blood is dark.

The liver and spleen are enlarged and dark-red in color. Blood is pumped to other internal organs (including the brain). Similar hemorrhagic changes are observed in all other organs and tissues. Many anthrax bacilli are found in areas of hemorrhage.

The course of the disease. The incubation period of the disease (the period from the time the microbe enters the body to the appearance of the first symptoms of the disease) lasts from several hours to 6-8 days, on average 2-3 days. Among the clinical types of anthrax, the skin-damaging type (skin type) and the septic type are known.

The cutaneous form of anthrax is also called anthrax anthrax. Anthrax carbuncle is often located in open areas of the body (face, neck, hands). A red nodule first appears at the site of anthrax bacillus entry. This knot will soon turn into a blister. A serous fluid mixed with blood appears in the blister. When the blister ruptures, an ulcer appears in its place, which quickly hardens, dries, and is covered with a brownish-black scab. Black scab (anthrax) does not hurt, but gradually grows in size. Small blisters appear around the black scab, which is very characteristic of anthrax. A large area around the anthrax anthrax becomes swollen.

On the first day of the disease, the patient has body aches, a slight headache, and weakness is felt. On the second day, the patient's body is shaking and shivering, and the temperature rises to 39-40 degrees, the heart beats faster, the headache increases, and sleep is disturbed. After the 5th day, the temperature begins to decrease, the patient's condition improves, and the carbuncle begins to return: first, the swelling decreases, at the end of 2-3 weeks, the black scab migrates and a scar is visible at the bottom. When anthrax is severe, the secondary septic type of the disease may begin. Septic type is very rare. The disease is observed only in cases of alimentary or airborne transmission. Sometimes it occurs as a complication of skin type. The septic type of the disease begins suddenly. The patient's body is numb and trembling, the temperature rises to 39-40 degrees. He breathes often, his heart beats faster. Often, the patient stings, coughs, and spits up blood-tinged sputum. Upon examination, signs of pneumonia and exudative pleurisy are revealed. Sometimes infectious-toxic shock occurs. A lot of disease germs are found in the patient's blood and sputum. Some patients feel nauseous, vomit blood, have severe abdominal pain, and have bloody diarrhea. In some cases, the patient develops meningoenzephalitis.

In the septic form of anthrax, the patient's condition is often critical. The temperature is around 40-41 degrees, the patient's condition suddenly worsens and shivers repeatedly, the heart beats fast, and symptoms of hemorrhage are detected (hemorrhagic rash appears on the skin, blood is poured into the mucous membranes, the patient throws up bloody sputum). , hemorrhagic pneumonia begins, the lungs swell, signs of meningoenzephalitis appear, and the patient collapses, then falls into a coma and dies.

Differentiation from similar diseases. The skin type of anthrax should be distinguished from ordinary anthrax. The skin type of the plague is very painful, there are no small bubbles around the black scab in the middle, and the swelling is much less than in anthrax. It is more difficult to distinguish the septic form of anthrax from the pulmonary form of the plague. Their differentiation is based on laboratory detection of anthrax bacilli, which are detected in large quantities in the patient's sputum.

The cure of the disease. Treatment is carried out with antibiotics - penicillin, cephalosporin, levometsetin, sodium succinate, gentamicin, gammaglobulin, colloid and crystalloid solutions,

plasma, albumin. It is forbidden to use surgical methods on the skin type of the skin. Otherwise, sepsis may begin.

Disease prevention. Preventive measures are carried out in cooperation with veterinary and medical staff. Elimination of sources of infection is carried out by veterinary staff under the supervision of medical staff. During the event, zootechnicians and veterinary service personnel, as well as people working with animal products, will be vaccinated at a special time. The patient is placed in a separate room in the hospital. People who were close to the patient will be monitored for 8 days and urgent preventive measures will be taken against them. The bodies of animals and people killed by anthrax are cremated or placed in a special coffin and buried 2 meters deep. Anthrax gammaglobulin and penicillin are injected for 7-10 days as an urgent preventive measure to those who are in the center of infection.

A comprehensive anthrax prevention plan includes:

1. Taking into account and mapping the dangerous points according to the burn.
2. Vaccination of agricultural and domestic animals against anthrax in these dangerous areas.
3. Carrying out remedial melioration and agrotechnical measures at these points, protecting water bodies from pollution.
4. Follow veterinary-sanitary rules during skin preparation, storage, transportation and processing.
5. Timely detection of anthrax disease among animals, separation of sick animals from other animals, conducting epizootological inspection in the fodder, disinfection of dead animals, conducting current and final disinfection measures in the fodder.
6. Vaccination against anthrax of persons at high risk of infection.
7. Carrying out large-scale sanitary-propaganda work on the prevention of anthrax among the population

Rabies. Rabies is an acute infectious zoonotic disease that affects the central nervous system. Rabies has been known since ancient times, and it was Aristotle who first discovered that human rabies was caused by dog bites. The clinic of rabies was first covered by Celsus in the 1st century and called it "fear of water".

In 1887, Babesh and in 1903 discovered that animals that died of rabies had round spots-like structures in the so-called horn of the brain. They later proved that the spots were caused by the rabies virus.

The famous French scientist Louis Pasteur discovered and developed a vaccine against rabies in the last century (1881-1888), and introduced vaccination of people bitten by dogs and wolves with this vaccine.

The origin of the disease. The virus that causes rabies is present in the saliva of a rabid animal and cannot survive in the environment for a long time. The virus is killed in 5-10 minutes under the influence of disinfectants, and in 2 minutes when boiled. It is kept alive for a long time when dried and at low temperature.

Epidemiology of the disease. The source of infection is rabid dogs, cats, wolves, foxes, badgers and other animals. In rare cases, the disease can be transmitted from rabbits, rats and other animals. The virus begins to appear in the dog's saliva 7-10 days before the symptoms of rabies become apparent. It is not necessary for a dog to bite a person to be infected with rabies. In the development of rabies, the bitten area is also of great importance, the bite of the head and face is more dangerous than the bite of the limbs, because the virus reaches the brain faster than the face.

The course of the disease. The incubation period of the disease lasts 1-2 months, sometimes it can be shortened to 2 weeks or extended to 1 year. The short or long latent period depends on the location, size and depth of the wound caused by the bite of a rabid animal. If the injury is on the head or face, the latent period is shortened. In children, this period is generally shorter than in adults.

Three periods are distinguished in the clinic of rabies:

- 1) initial period;
- 2) period of excitation;
- 3) period of paralysis;

The initial period lasts 2-3 days. The patient's sleep is disturbed, his appetite is suppressed, a feeling of fear appears, his mood changes. Later he lays around indifferently. The temperature rises a little. The wound in the place where the animal bitten hurts. Signs of fear of water and air appear. When patients are thirsty and try to drink liquid, the muscles of swallowing and breathing immediately contract and become very painful. At this time, the patient is in great agony, so much so that he is afraid to even see water, let alone drink it. Sometimes it's not seeing the liquid, but hearing its name that panics him. This condition is very characteristic of rabies. Breathing and swallowing muscles can also contract under the influence of air movement. The patient's temperature rises to 38 degrees, his voice is hoarse, his body sweats, his saliva flows, he hiccups, his pupils dilate, his limbs hurt, his eyes look as if he is afraid of something. it seems His blood beats frequently, his heart begins to beat irregularly. Breathing is irregular and shallow, occasionally taking deep breaths. Muscle contractions begin in the breathing and swallowing muscles and then spread to all muscles. Convulsions begin. In this case, the slightest sound, sunlight and lamp light, or the slight touch of something on the patient's body causes muscle contraction. During this period, the patient does not sleep, bites himself, and may repulse others. Consciousness is in and out, things that are not there are seen and distracted. This period can last from 2-3 days to 5-6 days.

In the period of paralysis, the fear of water is much reduced, the patient calms down, starts drinking liquid, but the temperature remains high. He cannot say words clearly, in this case paralysis of the legs begins. After 15-20 hours, other muscles of the body begin to be paralyzed. As this situation continues, the patient dies due to heart failure or paralysis of the respiratory center. Differentiation from similar diseases. A dog or other animal bite, fear of water and wind, irregular breathing, and occasional deep breathing are important for the diagnosis of rabies. Rabies should be distinguished first from tetanus and then from atropine poisoning. The diagnosis of vertigo includes muscle spasms, as a result of which there is a sarcastic grin on the face, absence of delusions and hallucinations, normal appearance of the pupil, the patient's lack of consciousness, and a history of being bitten by a dog or other animal. Lack of information can be the basis. In addition, the muscles of a rabid person do not contract when they are not having a seizure. It is known that in tetanus the

muscles are always shortened. In case of atropine poisoning, the patient's pupils are dilated, the appearance is red, there are no phenomena of fear of water and wind.

The cure of the disease. There is no specific cure for this disease. Symptomatic and pathogenetic treatment methods are used in the treatment of rabies. These methods calm the patient down a bit. The patient should lie in a quiet, separate room, free from noise. The room should be slightly darkened and the door closed. He is given sedatives, tranquilizers, and pain relievers.

Disease prevention. Anti-rabies treatment should be aimed at eliminating this infection among animals, first of all - dogs. If bitten by a rabid or unknown dog, a rabies vaccine is administered. We use the Fermi vaccine. The amount of vaccine, the duration of vaccination depends on the size, depth and location of the wound. Along with the vaccine, anti-rabies gammaglobulin is also administered.

Conclusion

In conclusion, we can say that we must prevent any infectious disease from spreading because it poses a serious threat to human life and health, the environment, and the development of our country. As a result, people's lifestyle hinders the economic development of the country. Therefore, first of all, everyone should follow the rules of personal hygiene.

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