FLU AND ARI PREVENTION

With the onset of the fall-winter season, the incidence of influenza and acute respiratory viral infections (ARVI) increases sharply. They annually account for up to 90-95% of all registered infectious diseases.

WHAT ARE FLU AND ARI?

Acute respiratory viral infections (ARVI) are a group of diseases that include influenza, parainfluenza, adenovirus, respiratory syncytial virus, rhinovirus, reovirus, and coronavirus infections. They are characterized by a short incubation period, brief fever and intoxication, and lesions of various parts of the respiratory tract.

Influenza is an acute respiratory viral disease characterized by short-term and severe fever, general intoxication, lesions of the upper respiratory tract (especially the trachea), and a tendency to spread in epidemics and pandemics. EPIDEMIOLOGY

Humans (patients with overt or latent forms of the disease) are the reservoir and source of infection. Patients are most infectious during the first 5-6 days of illness. Transmission is via aerosols and airborne droplets. Infection through contaminated household items is possible. Susceptibility is universal. Seasonality is autumn and winter.

CLINICAL PICTURE

The clinical picture of influenza develops rapidly. It is characterized by a triad: sudden onset, dominant symptoms of general intoxication at onset, and the later onset of catarrhal symptoms.

The onset of the disease is acute and sudden. Over the course of several hours, the condition progressively worsens. Intoxication syndrome becomes prominent and determines the severity of the condition.

Complications, which can develop both during the height of the illness and during apparent improvement, pose a particular danger. The most serious illnesses include viral hemorrhagic pneumonia, secondary bacterial pneumonia, sinusitis, otitis, myocarditis, and nervous system damage (meningitis, encephalitis).

Risk groups for severe influenza include:

- Children under two years of age;
- Elderly people over 60;
- Pregnant women;
- People with a history of chronic illnesses such as asthma, cardiovascular disease, metabolic disorders (diabetes, obesity, etc.), weakened immune systems, and kidney disease, including those infected with HIV.

The clinical picture of ARVI, unlike that of influenza, develops gradually, more mildly, and emphasizes local symptoms of upper respiratory tract damage. Intoxication syndrome is mild to moderate.

Symptoms peak on days 2-3, with full recovery occurring by days 5-7. However, in children, the elderly, and individuals with chronic conditions, some ARIs (for example, those caused by the respiratory syncytial virus or adenovirus) can

also lead to complications, such as otitis, sinusitis, exacerbation of bronchial asthma, and pneumonia.

PREVENTION

Prevention of influenza and ARIs can be divided into non-specific and specific.

Non-specific prevention of influenza and ARIs is a set of measures aimed at preventing the spread of infection and is carried out in relation to the source of infection (the sick person), the mechanism of transmission of the infectious agent, and the potentially susceptible population (protection of persons who are or have been in contact with the sick person).

Non-specific prevention consists of the following points:

• Hand hygiene. Viruses survive for a long time on surfaces (door handles, handrails, telephones). Wash your hands with soap for at least 20 seconds after being outside and before eating. If this is not possible, use an alcohol-based sanitizer (at least 60% alcohol).

• Social distancing and masks. Wear a mask in crowded places (transport, clinics). Try to maintain a distance of 1-1.5 meters from people who are sneezing or coughing.

• Ventilation and humidification. Ventilate rooms 3-4 times a day for 15 minutes, use a humidifier (optimal humidity is 40-60%).

• Wet cleaning. Regularly wipe down surfaces, especially devices.

• Balanced diet. Emphasize protein (meat, fish, legumes), vitamins: C (rose hips, bell peppers, citrus fruits, sauerkraut), D (fatty fish, egg yolk, sunlight, supplements as needed), zinc (pumpkin seeds, nuts), selenium.

• Physical activity. Regular moderate exercise (walking, exercise) improves circulation and the immune system.

• Healthy sleep (7-9 hours). Lack of sleep is a serious stress for the body and immune system.

• Stress management. Chronic stress increases cortisol levels, which suppresses immune function. Walking, hobbies, and meditation can help.

• Hardening. Not dousing with ice water, but systematically (contrast showers, wiping with cool water). You should start in the summer and gradually.

Specific influenza prevention involves targeted development of immunity against the influenza virus with vaccines (active prevention) and the use of medications for emergency protection (passive/chemoprophylaxis).

Features of influenza vaccines:

• Annual update. The composition of the vaccines changes every year.

Every year, according to WHO (World Health Organization) recommendations. This is due to the high variability of the influenza virus (antigenic drift).

• Vaccines are usually tri- or quadrivalent. They contain antigens from two strains of the influenza A virus (H1N1 and H3N2) and one or two strains of the influenza B virus.

• Vaccination timing. The optimal time is September-November, before the onset of the seasonal increase in cases. It takes 2-3 weeks for immunity to develop. The protective effect lasts for 6-8 months.

Groups subject to priority vaccination (risk groups):

• Children aged 6 months to 3 years.

• Children and adults with chronic diseases (cardiovascular, respiratory, diabetes, obesity, immunodeficiency, etc.).

• Individuals aged 65 years and older.

• Pregnant women (vaccination with inactivated vaccines is recommended in the second and third trimesters).

• Healthcare and pharmaceutical workers.

• Employees of educational institutions (kindergartens, schools, universities).

• Employees of institutions with 24-hour care (boarding schools, nursing homes).

• Essential service workers (transportation, energy, utilities).

• Military personnel, conscripts.

Vaccination does not guarantee 100% protection against infection, but it is extremely effective (70-90%) in preventing severe forms of influenza, complications, and deaths. Even if a vaccinated person does become ill, the illness is significantly milder.

Influenza and acute respiratory viral infection prevention is a comprehensive approach that requires consistency. The gold standard is influenza vaccination, hand hygiene, respiratory etiquette, and maintaining overall immunity through a healthy lifestyle. These simple steps significantly increase the chances of surviving the flu season without complications.

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