

INFECTIOUS MONONUCLEOSIS

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Abstract: The article covers the clinical signs, diagnostic methods and treatment approaches of infectious mononucleosis. The disease is caused by the Epstein-Barr virus and is accompanied by fever, pharyngitis, and lymphadenopathy. Diagnosis is based on serological and molecular tests. Treatment is symptomatic, and prevention of complications is important. The article provides practical help in the diagnosis and management of the disease.

Keywords: Infectious mononucleosis, Epstein-Barr virus, lymphadenopathy, splenomegaly, serological examination, symptomatic treatment, viral infection, prevention of complications.

Introduction

Infectious mononucleosis (IM) is a common viral infection, mainly caused by the Epstein-Barr virus (EBV), that occurs most often in children and young adults. The virus is usually transmitted through saliva, which is why it is also called the “kissing disease”. The main clinical signs of IM include fever, oropharyngeal pain, tonsillitis, enlarged lymph nodes, splenomegaly, and general weakness. In some cases, a mild form of the disease is observed, but in other cases, long-lasting and complicated processes may occur. In addition to the clinical appearance, laboratory studies, in particular, blood tests and serological methods play an important role in the diagnosis of infectious mononucleosis. Detection of atypical mononuclear cells and the presence of EBV-specific antibodies are the main indicators in the diagnosis. There are no specific antiviral drugs against IM, so treatment is mainly based on symptomatic therapy. Reducing fever, relieving sore throat and rest are the main recommendations for patients. In severe cases or the development of complications, additional procedures are required.

In this article, clinical symptoms of infectious mononucleosis, methods of diagnosis and modern approaches to treatment are analyzed in detail. Measures to prevent the disease and complications are also considered. The study of this topic is important for doctors, medical workers, and those involved in disease research.

Materials and methods

Clinical manifestations, diagnostic methods and treatment strategies of infectious mononucleosis were studied in this study. The study is based on the medical data of 150 patients who applied for treatment in clinics specializing in infectious diseases during 2020-2024. Among the patients, men and women aged 6 to 25 years participated equally. The purpose of the study is to identify infectious mononucleosis and evaluate effective treatment methods. Comprehensive data on clinical observations, laboratory tests and treatment processes of patients were collected.

The main symptoms of patients (fever, pharyngitis, tonsillitis, lymphadenopathy, splenomegaly and general weakness) were taken into account during the clinical assessment. The duration, severity, and changes of each symptom were recorded regularly. Laboratory tests were carried out by the following methods:

The level of atypical mononuclear cells, lymphocytes and thrombocytes was measured through a general blood analysis. The activity of liver enzymes (ALT, AST) and other central organs was assessed using biochemical analysis. Serological tests were used to detect antibodies related to EBV (Epstein-Barr virus), by which the acute or chronic stages of the disease were determined.

Detection of EBV DNA using molecular tests (PCR) allowed to confirm the presence of the virus with high accuracy.

Ultrasound examinations (UZT) were used in instrumental diagnostics, and cases of splenomegaly and hepatomegaly were detected. Chest x-rays were also used, which helped monitor the condition of the lungs and lymph nodes.

The treatment approach is based on symptomatic therapy. Depending on the condition of the patients, antipyretic and analgesic drugs (paracetamol, ibuprofen) were prescribed to relieve fever and pain. Corticosteroids were used if the patient had excessive activation of the immune system and increased inflammatory processes. If there is restriction of physical activity, splenomegaly and other severe symptoms, the patient was advised. In addition, mild immunomodulators and vitamins were recommended to prevent the development of complications of the disease.

Data were analyzed using SPSS software for statistical analysis. The relationship between the prevalence of symptoms, laboratory results and the effectiveness of treatment has been determined. Based on the obtained results, recommendations were made to increase the accuracy in the diagnosis of infectious mononucleosis and to develop effective approaches to treatment. The results of the study will help to manage infectious mononucleosis in a comprehensive and effective way.

Results and discussion

During the study, the clinical, laboratory and treatment processes of 150 patients with infectious mononucleosis were analyzed. The patients' age, sex, and clinical presentation of the disease were analyzed. The results of the study showed that fever was observed in 65% of patients, pharyngitis in 75%, tonsillitis in 80%, lymphadenopathy in 90%, and splenomegaly in 70%. General weakness and loss of appetite were noted in 50% of patients. These symptoms are the main clinical manifestations of infectious mononucleosis, and in the acute stage of the disease, they occasionally intensify and worsen the patient's condition.

Clinical analysis: Fever and inflammatory processes were more observed in the first stage of the disease. Symptoms of pharyngitis and tonsillitis are experienced in many cases. Lymphadenopathy is often expressed seriously in the acute stage of the disease, but splenomegaly and hepatomegaly changes sometimes develop late. Splenomegaly was detected in 45% of patients after 10 days. General weakness and loss of appetite depended on high temperature and physical weakness of patients during the disease.

Laboratory tests: An increase in lymphocytes and an increase in the number of atypical mononuclear cells in the general blood analysis serve as signs of EBV infection. In biochemical analysis, ALT and AST levels were found to be higher in 25% of patients compared to the indicated normal state. These results indicate impaired liver function, confirming the adverse effects of EBV-related infection. In serological tests, high levels of EBV-VCA IgM and IgG antibodies were obtained as reliable indicators of the transition from the acute stage of the disease to the later stage.

The detection of EBV DNA using molecular tests (PCR) made it possible to confirm the presence of infection and the biological activity of the virus with high accuracy. Through this method, it was possible to study the immune response against EBV and determine its effect on infection.

Methods of treatment: The main treatment approach for patients consisted of symptomatic and supportive care. It was possible to reduce fever and pain with the help of antipyretic and analgesic drugs (paracetamol, ibuprofen). Corticosteroids were prescribed only in severe cases, and their effectiveness was high. Limiting physical activity and improving nutrition accelerated the recovery process of patients. During the follow-up of the patients, relief and recovery of many symptoms were shown.

Discussion:

Clinical manifestations of infectious mononucleosis can be different for each patient. The results of the study showed that the general approach to the symptomatic treatment of infectious mononucleosis is effective. Also, laboratory and molecular tests play an important role in accurate identification of infection and speeding up treatment. The initial symptoms of the disease mainly begin with pharyngitis and tonsillitis, but during the course of treatment, the symptoms may be relieved in a short time.

Serological and molecular tests are effective in the diagnosis of EBV infection, and these methods are important in determining the acute phase and managing treatment. Corticosteroids have also been helpful in reducing inflammation rapidly in some patients, but should be used with caution.

The results obtained in the study provide an opportunity to improve approaches to the management of infectious mononucleosis based on clinical and laboratory data. This helps to develop complex and effective treatment methods for the disease. Lighter approaches to treatment speed up the recovery process of patients, but in severe cases of the disease, additional treatment methods are necessary.

Conclusion

In conclusion, The results of the study are aimed at studying the effectiveness of clinical, laboratory and treatment approaches for infectious mononucleosis. It was shown that the main symptoms of the disease, including fever, pharyngitis, tonsillitis, lymphadenopathy and splenomegaly, are common among patients. In the early stages of the disease, symptoms are mild, and symptomatic approaches to treatment are effective. Laboratory and molecular tests, especially the detection of antibodies against EBV and viral DNA, have played an important role in the accurate diagnosis of the disease. Biochemical analysis, especially the increase of liver enzymes, showed a systemic effect of the infection. Antipyretic and analgesic drugs were effectively used in the treatment, and corticosteroids were prescribed only to patients in severe condition. Physical activity restriction and supportive treatment approaches have accelerated the recovery process of patients. The results obtained in the study confirm the effectiveness of the management of infectious mononucleosis in a comprehensive approach. Treatment methods determined on the basis of clinical and laboratory analyzes allow effective management of the disease and help patients recover quickly. In the future, there is a need to develop new approaches and strategies for the treatment of this disease.

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