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CHARACTERISTIC FEATURES OF THE COURSE OF CITOMEGALOVIRUS INFECTION IN CHILDREN

Mukhtorova Shokhida Abdulloevna
Buxoro davlat tibbiyot instituti Yuqumli kasalliklar,
bolalar yuqumli kasalliklari va epidemiologiya

ANNOTATION

Cytomegalovirus (CMV) is a common viral infection that can cause a range of clinical manifestations in children. This article aims to describe the characteristic features of CMV infection in children. The study was conducted by reviewing relevant literature sources, including scientific articles and textbooks. The article outlines the methods used to identify CMV infection in children, including laboratory tests, clinical examination, and imaging studies. The results section describes the clinical manifestations of CMV infection in children, including neurological, gastrointestinal, and respiratory symptoms. The discussion section discusses the pathophysiology of CMV infection and the risk factors associated with severe disease. The article concludes that CMV infection is a significant cause of morbidity and mortality in children, particularly in immunocompromised individuals. Early diagnosis and appropriate management are crucial in preventing severe disease outcomes.

Keywords: Cytomegalovirus, infection, children, clinical manifestations, diagnosis, risk factors

АННОТАЦИЯ

Цитомегаловирус (ЦМВ) - распространенная вирусная инфекция, которая может вызывать целый ряд клинических проявлений у детей. Цель данной статьи - описать характерные особенности ЦМВ-инфекции у детей. Исследование было проведено путем обзора соответствующих литературных источников, включая научные статьи и учебники. В статье описываются методы, используемые для выявления ЦМВ-инфекции у детей, включая лабораторные тесты, клиническое обследование и визуализационные исследования. В разделе "Результаты" описаны клинические проявления ЦМВ-инфекции у детей, включая неврологические, желудочно-кишечные и респираторные симптомы. В разделе для обсуждения обсуждается патофизиология ЦМВ-инфекции и факторы риска, связанные с тяжелым течением заболевания. В статье делается вывод о том, что ЦМВ-инфекция является значительной причиной заболеваемости и смертности у детей, особенно у лиц с ослабленным иммунитетом. Ранняя диагностика и надлежащее лечение имеют решающее значение для предотвращения тяжелых исходов заболевания.

Ключевые слова: цитомегаловирус, инфекция, дети, клинические проявления, диагностика, факторы риска

Cytomegalovirus (CMV) infection is a common viral infection that can affect people of all ages, including children. CMV is a member of the herpesvirus family and can cause a range of clinical manifestations, from asymptomatic infection to severe disease. In children, CMV infection can lead to a variety of symptoms, including neurological, gastrointestinal, and respiratory

symptoms. This article aims to describe the characteristic features of CMV infection in children and the methods used to diagnose the infection. The article also discusses the pathophysiology of CMV infection and the risk factors associated with severe disease outcomes.

The study was conducted by reviewing relevant literature sources, including scientific articles and textbooks. The search was conducted using the keywords "cytomegalovirus," "infection," "children," "clinical manifestations," "diagnosis," and "risk factors." The articles included in the study were selected based on their relevance to the topic and the quality of the evidence presented. The methods used to identify CMV infection in children were also reviewed, including laboratory tests, clinical examination, and imaging studies.

CMV infection in children can present with a range of clinical manifestations, including neurological, gastrointestinal, and respiratory symptoms. In neonates, CMV infection can cause intrauterine growth retardation, microcephaly, and sensorineural hearing loss. In older children, CMV infection can lead to encephalitis, meningitis, hepatitis, pneumonitis, and colitis. Laboratory tests used to diagnose CMV infection include serological testing, viral culture, and polymerase chain reaction (PCR) testing. Imaging studies such as computed tomography (CT) and magnetic resonance imaging (MRI) can also help identify CMV-related disease.

Cytomegalovirus (CMV) is a common viral infection that can affect both children and adults. While many people with CMV may not experience any symptoms, some children may develop serious health problems as a result of the infection, including hearing loss, vision impairment, and intellectual disability.

There is no specific treatment for CMV infection, but there are several strategies that can be used to prevent morbidity in children who are at risk. One of the most effective strategies is to identify and treat CMV infections early, before they have a chance to cause serious health problems. This can be done through routine screening of newborns, as well as testing pregnant women who may be at risk for passing the virus to their babies.

In addition to early identification and treatment, there are several other strategies that can help prevent morbidity in children with CMV. These include:

1. Supportive care: Children with CMV may require additional support and care to help them manage the symptoms of the infection, such as fever, fatigue, and muscle aches.
2. Hearing and vision screening: Regular hearing and vision screening can help identify any potential problems early on, allowing for prompt intervention and treatment.
3. Early intervention: Children who are identified as having hearing or vision problems should be referred for early intervention services, such as speech therapy, to help them develop important communication and social skills.
4. Education and support: Parents and caregivers of children with CMV may benefit from education and support to help them understand the condition and manage any related health issues.

Overall, preventing morbidity in children with CMV requires a multi-faceted approach that includes early identification, supportive care, regular screening, and early intervention. By taking these steps, it is possible to minimize the impact of CMV on a child's health and development.

Cytomegalovirus (CMV) infection is a viral infection that is commonly found in children. It is caused by a virus from the herpesvirus family called cytomegalovirus. CMV infection can cause

a range of clinical manifestations, from asymptomatic infection to severe disease. In children, CMV infection can present with neurological, gastrointestinal, and respiratory symptoms.

In neonates, CMV infection can cause intrauterine growth retardation, microcephaly, and sensorineural hearing loss. In older children, CMV infection can lead to encephalitis, meningitis, hepatitis, pneumonitis, and colitis. CMV can establish a lifelong latent infection in the host, and reactivation of the virus can occur in immunocompromised individuals.

Risk factors for severe CMV disease include immunodeficiency, prematurity, low birth weight, and solid organ or bone marrow transplantation. Early diagnosis and appropriate management are crucial in preventing severe disease outcomes. Healthcare providers should consider CMV infection in the differential diagnosis of children presenting with neurological, gastrointestinal, or respiratory symptoms.

Laboratory tests used to diagnose CMV infection include serological testing, viral culture, and polymerase chain reaction (PCR) testing. Imaging studies such as computed tomography (CT) and magnetic resonance imaging (MRI) can also help identify CMV-related disease.

Vaccines and antiviral therapies for CMV are currently under development and may provide a promising avenue for the prevention and treatment of CMV infection in children. CMV infection is a significant cause of morbidity and mortality in children, particularly in immunocompromised individuals, and thus it is essential to be aware of the characteristic features and methods for diagnosing and managing the infection.

Treatment of cytomegalovirus (CMV) infection in children depends on the severity of the disease and the immune status of the child. In immunocompetent children with mild symptoms, treatment is usually not required, and the infection resolves spontaneously over a few weeks. However, in immunocompromised children, CMV infection can cause severe disease and requires prompt treatment.

Antiviral drugs such as ganciclovir, valganciclovir, and foscarnet are effective in the treatment of CMV infection in immunocompromised children. These drugs inhibit viral replication and can help reduce the severity and duration of symptoms. They can be administered orally or intravenously, depending on the severity of the disease.

In neonates with congenital CMV infection, antiviral therapy may be initiated immediately after birth to prevent or reduce the severity of long-term complications such as sensorineural hearing loss. In older children, antiviral therapy may be initiated if there is evidence of severe disease or if the child is immunocompromised.

In addition to antiviral therapy, supportive care is also essential in the management of CMV infection in children. This may include administration of intravenous fluids, oxygen therapy, and nutritional support. In severe cases, hospitalization may be required.

Prevention of CMV infection in children is also essential, particularly in high-risk populations such as premature infants and children undergoing solid organ or bone marrow transplantation. Strict adherence to infection control measures, including hand hygiene and isolation precautions, can help prevent the spread of CMV infection.

In conclusion, CMV infection can cause severe disease in immunocompromised children and requires prompt treatment with antiviral drugs. Supportive care is also essential in the management of the infection. Prevention of CMV infection through infection control measures is crucial, particularly in high-risk populations.

The pathophysiology of CMV infection is complex and involves viral replication, immune evasion, and inflammation. CMV is highly prevalent in the population, with up to 90% of adults in some populations showing serological evidence of prior infection. In immunocompetent individuals, CMV infection is usually asymptomatic or presents as a mild flu-like illness. However, in immunocompromised individuals, such as those with HIV/AIDS or undergoing chemotherapy, CMV infection can cause severe disease and even death. Risk factors for severe CMV disease include immunodeficiency, prematurity, low birth weight, and solid organ or bone marrow transplantation.

CONCLUSIONS AND SUGGESTIONS

CMV infection is a significant cause of morbidity and mortality in children, particularly in immunocompromised individuals. Early diagnosis and appropriate management are crucial in preventing severe disease outcomes. Healthcare providers should consider CMV infection in the differential diagnosis of children presenting with neurological, gastrointestinal, or respiratory symptoms. Serological testing, viral culture, and PCR testing are useful in diagnosing

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