

Hand, Foot and Mouth Disease

Hand, foot, and mouth disease (HFMD) is a highly contagious viral infection most commonly affecting young children. It is primarily caused by the coxsackievirus, a member of the enterovirus family. The disease is characterized by fever, sore throat, and distinctive skin lesions on the hands, feet, and sometimes other areas of the body. Though typically self-limiting, HFMD can cause discomfort, and its spread can be effectively minimized with appropriate hygiene measures.

Pathophysiology and Etiology

HFMD is caused by a variety of enteroviruses, with *Coxsackievirus A16* being the most frequently implicated, though other strains, including *Coxsackievirus A6* and *Enterovirus 71*, can also be responsible. These viruses primarily spread via direct contact with respiratory droplets, fecal material, or fluid from the blisters of infected individuals. The infection commonly affects children under five years of age but can occur in older children and adults. The incubation period for HFMD typically ranges from 3 to 7 days, after which initial symptoms manifest.

Clinical Presentation

The disease typically begins with mild symptoms, including a sore throat, low-grade fever, and swollen cervical (neck) lymph nodes, which usually last for 1-2 days. The hallmark feature of HFMD is the development of oral lesions. These lesions, which appear in the mouth, are often painful and may begin as small, red spots that evolve into blisters. These painful lesions can cause difficulty swallowing, leading to potential dehydration, particularly in younger children.

Skin lesions, which occur in approximately two-thirds of cases, generally appear a few days after the onset of fever. These lesions typically start as small, flat red spots, which then progress into vesicles surrounded by a reddish halo. The rash usually affects the palms of the hands and soles of the feet, but can also appear on other areas of the body, including the fingers, toes, buttocks, legs, and face. The lesions generally heal within 7 to 10 days without scarring. Although the disease resolves in most cases without complications, it is essential to monitor for signs of dehydration, especially in younger children.

Diagnosis

The diagnosis of HFMD is primarily clinical, based on the characteristic presentation of oral and cutaneous lesions. A laboratory test may be used in atypical cases to identify the causative virus, typically through throat swabs, stool samples, or lesion cultures. However, because the condition is self-limited and uncomplicated, diagnostic testing is rarely necessary unless there are signs of severe complications (such as neurologic involvement in cases of *Enterovirus 71* infections).

Treatment

Treatment for hand, foot, and mouth disease is largely supportive, as the infection is self-limiting. There is no specific antiviral therapy for HFMD. Management focuses on alleviating symptoms and promoting comfort. Oral lesions can cause significant discomfort, and topical anesthetics such as benzocaine or lidocaine may be used to relieve pain and facilitate eating and drinking. Oral analgesics, such as acetaminophen or ibuprofen, can help manage fever and pain associated with both the oral and cutaneous lesions. However, aspirin should be avoided in children due to the risk of Reye's syndrome.

Hydration is a critical component of care, especially if oral lesions make swallowing painful. Children may refuse fluids due to discomfort, so offering cool, soft foods and drinks or using a straw may help improve intake. In more severe cases, intravenous fluids may be required if dehydration occurs.

Prevention

Since HFMD is highly contagious, maintaining good hygiene practices is essential to limit its spread. This includes frequent handwashing, disinfecting surfaces that may have come into contact with infected bodily fluids, and avoiding close contact with infected individuals. While keeping a child home from school is not typically necessary unless they are feverish or have difficulty swallowing fluids, it is important to prevent the disease from spreading to other children and vulnerable populations.

Conclusion

Hand, foot, and mouth disease is a common viral infection among young children, caused primarily by coxsackieviruses. It is typically characterized by a combination of fever, sore throat, oral lesions, and a rash on the hands, feet, and other areas of the body. Although the disease is generally self-limiting, supportive treatments to manage symptoms and prevent complications are crucial. By practicing good hygiene and ensuring adequate hydration, the spread of the disease can be minimized, and most children recover without lasting effects.

References

- ❖ Centers for Disease Control and Prevention. (2021). *Hand, foot, and mouth disease: Causes, symptoms, and prevention*. <https://www.cdc.gov/hand-foot-mouth/index.html>
- ❖ Zhou, H., Fu, H., & Yang, X. (2020). Hand, foot, and mouth disease: A review of the epidemiology and clinical management. *Journal of Clinical Virology*, 128, 104421. <https://doi.org/10.1016/j.jcv.2020.104421>