pennsylvania
DEPARTMENT OF HEALTH

HAND, FOOT, AND MOUTH DISEASE

FACT SHEET

Overview

Hand, Foot, and Mouth Disease (HMFD) is a common viral illness that usually affects infants and children younger than 5 years old. However, it can sometimes occur in adults. It is characterized by fever, sores in the mouth and a rash with blisters. Although the names are similar, Hand, Foot, and Mouth disease is NOT the same as Foot and Mouth Disease which affects cattle, sheep and swine. The two diseases are caused by different viruses.

Signs and Symptoms

The first symptoms of HFMD usually start three to five days after exposure to the virus and include:

- Fever;
- Reduced appetite;
- Sore throat; and
- A feeling of being unwell (malaise).

One or two days after the fever starts, painful sores can develop in the mouth. They usually begin in the back of the mouth as small red spots that blister and can become ulcers. A skin rash with red spots, and sometimes with blisters, may also develop over one or two days on the palms of the hands and soles of the feet; it may also appear on the knees, elbows, buttocks or genital area.

Not everyone will get all of these symptoms. Some people, especially adults, may show no symptoms at all, but they can still pass the virus to others.

Causes and Transmission

HFMD is caused by viruses that belong to the Enterovirus genus (group), including polioviruses, coxsackieviruses, echoviruses and enteroviruses.

- Coxsackievirus A16 is the most common cause of HFMD in the United States, but other coxsackieviruses can also cause the illness.
- Enterovirus 71 has also been associated with cases and outbreaks of HFMD. Less often, enterovirus 71 has been associated with severe disease, such as encephalitis.

The viruses that cause HFMD can be found in an infected person's:

- Nose and throat secretions (such as saliva, sputum or nasal mucus);
- Blister fluid; and
- Feces (stool).

An infected person may spread the viruses that cause HFMD to another person through:

- Close personal contact;
- The air (through coughing or sneezing);
- Contact with feces; and/or
- Contact with contaminated objects and surfaces.

For example, you might get infected by kissing someone who has HFMD or by touching a doorknob that has viruses on it, then touching your eyes, mouth or nose.

It is possible to get infected with the viruses that cause HFMD if you swallow recreational water, such as water in swimming pools. However, this is not very common. This is more likely to happen if the water becomes contaminated with feces from a person who has HFMD and is not properly treated with chlorine.

Generally, a person with HFMD is most contagious during the first week of illness. People can sometimes be contagious for days or weeks after symptoms go away. Some people, especially adults, may not develop any symptoms, but they can still spread the virus to others. This is why people should always try to maintain good hygiene (e.g., through handwashing) so they can minimize their chance of spreading or getting infections.

You should stay home while you are sick with HFMD. Talk with your health care provider if you are not sure when you should return to work or school. The same applies to children returning to daycare.

HFMD is not transmitted to or from pets or other animals.

Risk Factors

HFMD occurs mainly in children under 5 years of age but may also occur in adults. Infants, children and adolescents are more likely to become infected with one of the viruses that causes HFMD because they are less likely than adults to have immunity from a previous exposure to that virus. Once a person is infected with a virus that causes HFMD, they develop immunity to that virus and will not become infected again.

Complications

Health complications from HFMD are not common.

- Viral or "aseptic" meningitis can occur with HFMD, but it is rare. It causes fever, headache, stiff neck or back pain and may require the infected person to be hospitalized for a few days.
- Encephalitis (inflammation of the brain) or polio-like paralysis can occur, but this is even rarer.
- Fingernail and toenail loss have been reported, occurring mostly in children within a few weeks after having HFMD. At this time, it is not known whether nail loss was a result of the disease in reported cases. However, in the reports reviewed, the nail loss was temporary, and the nail grew back without medical treatment.

Some people, especially young children, may get dehydrated if they are not able to swallow enough liquids because of painful mouth sores. 3

Tests and Diagnosis

HFMD is one of many infections that cause mouth sores. Health care providers can usually identify mouth sores caused by HFMD by considering:

- The age of the patient;
- The patient's symptoms; and
- The appearance of the rash and mouth sores.

Depending on how severe the symptoms are, samples from the throat or feces (stool) may be collected and sent to a laboratory to test for the virus.

Treatments

There is no specific treatment for HFMD. However, some things can be done to relieve symptoms, such as:

- Taking over-the-counter medications to relieve pain and fever (Caution: Aspirin should not be given to children.); and
- Using mouthwashes or sprays that numb mouth pain.

Prevention

HFMD is spread from person to person through coughing and sneezing or contact with blister fluid or feces (stool) of an infected person. You can lower your risk of being infected by:

- Washing your hands often with soap and water;
- Disinfecting dirty surfaces and soiled items; and
- Avoiding close contact such as kissing, hugging or sharing eating utensils or cups with infected people.

Disease Patterns

Individual cases and outbreaks of HFMD occur around the world. In Pennsylvania and other areas with temperate (varying) climates, cases occur most often in the spring, summer and fall.

Additional Information

Centers for Disease Control and Prevention: http://www.cdc.gov/hand-foot-mouth/index.html

This fact sheet provides general information. Please contact your physician for specific clinical information.

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