Review Article

Outbreak of hand foot and mouth disease in Sri Lanka

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Sri Lanka Journal of Child Health, 2000; **29**: 114-5

(Key words: Hand foot and mouth disease, HFMD, Sri Lanka)

Introduction

Hand foot and mouth disease (HFMD), a common illness of infants and children, is one of a group of enteroviral diseases. Recently, paediatricians and dermatologists in and around Colombo reported several cases of the disease. HFMD is a different disease to hoof and mouth disease of cattle, sheep and swine and is caused by different viruses.

Epidemiology

a. Infectious agent

Several different viruses cause HFMD. The most common cause is Coxsackie virus A16. Occasionally Coxsackie virus group A types 4, 5, 9 and 10;group B types 2 and 5 and enterovirus 71 cause HFMD. The Coxsackie viruses are members of enterovirus group which includes the polioviruses, Coxsackie viruses and echoviruses. The only known reservoir is man[1,2].

b. Occurrence

The disease occurs worldwide, both sporadically and in epidemics, mainly in children under 10 years of age. However, adult cases are not unusual, especially among young adults.

c. Mode of transmission

HFMD is moderately contagious. The spread the disease can occur through direct contact with aerosol droplets, nasal discharge, saliva, faeces and fluid from vesicles. It can also spread through indirect contact with articles contaminated by secretions. There is no reliable evidence of spread by pets, insects, water or food[1,2,3].

d. Incubation period

Ranges from 3-5 days.

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e. Period of communicability

A person is most contagious during the first week of the disease. However, the period of communicability may be longer, since the virus persists in stool for several weeks.

f. Immunity

HFMD occurs mainly in children under 10 years of age, but adults may also be at risk. Infection results in immunity to the specific virus, but a second episode is possible from a different strain of virus belonging to the enterovirus family[3].

Clinical features

HFMD is an acute, self-limiting disease characterized by fever, diffuse oral lesions and a vesicular skin rash. The disease begins with a mild fever, poor appetite, malaise and frequently a sore throat. One to 2 days after the onset of fever, small red spots occur in the mouth, which blister and then often become ulcers. These lesions are usually located on the buccal surfaces of the cheeks, gums and sides of the tongue.

Simultaneously, a non-pruritic vesicular skin rash develops over a day or 2. The rash occurs especially on the palms, fingers and the soles of the feet. Occasionally, lesions could appear on the back of the elbows, front of knees and on the buttocks ("hand-foot-mouth-butt disease"). The papulovesicular lesions may persist from 7 to 10 days. A person with HFMD may have only the rash or the mouth ulcers[1,3,4].

Complications

The illness is typically mild and usually resolves in 7-10 days. However, rare cases in infants have been found to be fatal. As quoted in the Straits Times of 14.09.00, Malaysia (1997) and Taiwan (1998) experienced outbreaks of the disease resulting in 50 and 78 deaths respectively, which were largely

among young children. Rare complications include aseptic meningitis, encephalitis, paralytic disease and viral myocarditis. The danger symptoms and signs are pain in the neck, drowsiness, vomiting, persistently high fever, and difficulty in breathing and signs of dehydration[1,4].

There is debate as to any congenital disorders related to Coxsackie viral infection and pregnancy[2].

Diagnosis

The diagnosis is generally suspected based upon the appearance of the vesicular rash on the hands, feet and mouth in a child with a mild febrile illness. However, the oral lesions should be differentiated from stomatitis due to herpes simplex, which are deeper, larger and more painful ulcerative lesions, commonly located in the front of the mouth.

Specific viral tests are available to confirm the diagnosis. Stools are the most important specimen for enterovirus isolation as the virus content is high and the period of viral excretion is long. Other additional specimens such as CSF and swabs of oral ulcers or vesicular skin lesions, sent on appropriate transport medium (Hank's virus transport medium) are used for virus isolation[1,3,4].

Methods of control

a. **Preventive measures**

Preventive measures include frequent hand washing, especially after diaper changes, disinfection of contaminated surfaces and washing soiled articles of clothing. When practicable, person to person contact should be reduced and ventilation improved.

b. **Control of patient and contacts**

Children should be excluded from child-care programs, schools and other crowded public places during the first few days of the illness. Nose and throat discharges should be disinfected while careful attention should be given to prompt hand washing when handling discharges, faeces and articles soiled therewith. Quarantine is not recommended and there is no specific immunisation[1].

Treatment

There is no specific treatment for HFMD. Symptomatic treatment is given to provide relief from fever, aches or pain from the mouth ulcers. Salt-water mouth rinses (half teaspoon of salt to one glass of warm water) may be soothing if the child is able to rinse without swallowing. An adequate fluid intake should be ensured, as swallowing may be painful.

Outbreak in Sri Lanka

Since early October 2000, paediatricians and dermatologists in and around Colombo have reported several cases of HFMD at their practices, both in the state and private sectors. The Epidemiological Unit of the Department of Health Services alerted hospitals throughout the country to look out for such cases, and issued a fact-file on the disease.

HFMD is not a notifiable disease in Sri Lanka. However, with a view to monitoring the situation in the country and to initiate preventive and control activities, the Epidemiological Unit requested weekly notification of the disease from hospitals throughout the country.

During the last 2 weeks of October 2000, 1468 suspected cases seen at OPDs were notified from 24 hospitals in 7 districts of the country. Nearly 70% of these cases were reported from the Colombo district. They were mainly from the Lady Ridgeway Hospital, Colombo and 2 large private hospitals in the city.

During the month of November 2000, 447 cases of HFMD seen at OPDs were notified to the Epidemiological Unit, from 12 districts in the country. Eighty three of these cases were from the Kegalle district which reported none during the previous month. Hundred and forty cases were reported from the Colombo district. According to notification data, 114 cases were admitted to hospital wards since October. There were neither complications nor deaths reported during this outbreak.

The Epidemiologist informed the Advisory Committee on Communicable Diseases of the outbreak of HFMD. As the Medical Research Institute, Colombo was unable to identify the virus, the Committee decided to request the Director, MR[to seek external assistance for this purpose.

References

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