

HAND FOOT AND MOUTH DISEASE

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SUMMARY: Hand, foot and mouth disease is an exanthemateous disorder usually seen in children and generally caused by Coxsackie virus A 16. This infection manifests it self with a typical clinical pattern. It usually affects children under 10 years of age. Incubation period is 3-6 days. The clinical symptoms manifest themselves with low grade fever, cough, malaise and a sore mouth and throat. Lesions usually disappear within 10-14 days. The exanthemas are first in maculopapular form and changes to vesicles. They are found in mouth, hand and foot. The treatment of this disease is symptomatic. It is very important to establish the right diagnosis to avoid epidemics.

Key Words: Hand foot and mouth disease, coxsackie virus.

Hand, foot and mouth disease is an exanthemateous disorder usually seen in children and generally caused by Coxsackie virus A 16 (3, 4, 8, 11, 16, 17). In some cases Coxsackie virus A 15 and A10 and less frequently types A6, B2 and B5 and enterovirus 71 can also be isolated (16).

The first recorded epidemic outbreak of this disease was in Toronto, Canada (15).

Except Poliomyelitis, the infections caused by enteroviruses can only be definitely diagnosed by laboratory examinations supporting the clinical findings, but as the infection caused by Coxsackie virus A 16 manifest itself with typical clinical pattern there is no need for serological studies in most of the cases (2,3,20).

The disease usually affects children under 10 years of age (1,2,3,4,5,11,16,17,18). The age distribution of the reported cases is between 6 months and 3 years; however there are reports about the affected patients in the newborn period or above 25 years of age (14).

The disease has a typical pattern with a short incubation period of 3-6 days (3,10,17,20). The clinical symptoms manifest themselves with low grade fever, cough, malaise and a sore mouth and throat (1,3,5,9,10,11, 12,16,17,18). Sometimes these systemic symptoms can lead to serious complications as aseptic meningitis, par-

alytic poliomyelitis, fatal myocarditis in infants, respiratory and gastro-intestinal system deficiencies. Following 24-48 hours of systemic symptoms, lesions appear on both skin and oral mucosa. The exanthem begins as macules and rapidly change into papules and vesicles. The lesions usually disappear within 10-14 days. The lesions can usually be noticed on buccal mucosa, hard palate and tongue (4,10,11,16,17,18,19,20) in the form of maculo-papular exanthems 2-10 mm in diameter, changing later into ulcerating vesicles. These ulcers have an oval shape, are greyish in colour, surrounded by an hyperemic border (20). These lesions are widely distributed along and at the tip of the tongue and on the gingiva and are quite painful (11). They heal within 5-10 days.

Hand lesions:

The hand lesions appear 1-2 days following the lesions in the mouth (11). At the beginning they are in macular form, 3-10 mm in size which rapidly change into vesicular form. They are commonly seen on distal phalanges of the fingers and the ulnar borders of the palm. They can be quite painful (4,10,11,17,20).

Foot lesions:

The lesions on the feet appear either simultaneously with those on the hand or 1-2 days later. They also first appear in macular form to change further into vesicular forms. They usually occupy the lateral borders of the feet,

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the soles, the distal parts of the toes and the interphalangeal spaces. The patients complain about pain while stepping on and walking (11).

Treatment:

The treatment of this disease is symptomatic. Secondary infections rarely occur. The patients are placed on soft and liquid diet. The mouth washes including local anesthetic provide a short term comfort.

In young children dehydration is the most important problem as the babies refuse oral feeding because of the painful lesions (3).

As the disease is contagious it must be well known by the dentists and dental school students to avoid the epidemics.



Figure 1: Macule and papule formed lesions are seen in Fig. 1.

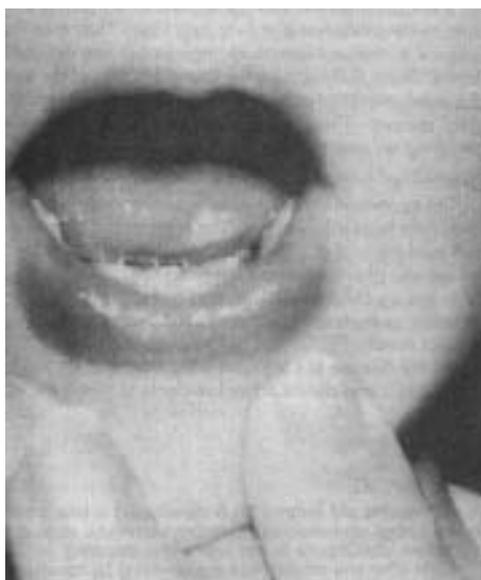


Figure 2: Vesicular formed lesion seen on the tip of the tongue.



Figure 3: Vesicular and macular formed lesions seen together on foot.

CASE REPORT

23 months old female N.B developed a low grade fever, cough and malaise. Two days later she started to complain about pain in her feet while stepping on.

Right after she refused to take anything by mouth not only because of anorexia but also because of pain in her mouth.

In her family story there was nothing considerable. And none of the family had the same systematic symptoms.

Physical examination revealed red macules on both of her hands and soles (Figure 1). These macules were not above the skin. Aptheous lesions were on the tip of the tongue and on the right molar mucosa (Figure 2). The lesions on hands and feet became more apparent the next day and the macules on the soles changed into vesicles (Figure 3). These vesicles were grayish coloured and surrounded by hyperemic border.

The departments of Pediatrics, Allergy, Dermatology and Pediatrics Infectious Diseases was consulted and the diagnosis of Hand-Foot-and Mouth Disease was confirmed.

The vesicles did not change to ulcerative form. The patient was placed only on fluid diet, no medical treatment was initiated. The temperature did not rise during the course of the disease. The lesions on the skin and mucouse membranes heal 27 days later without leaving any scar.

DISCUSSION

The Coxsackie viruses which belong to the enterovirus family can be isolated from the healthy people's oropharynxes or intestinal mucosas. As these viruses are acido-resistant they easily pass oropharynx and the stomach and colonise in the intestinal system (13). The fecal con-

tamination or transportation with food is possible. Coughing and sneezing can also lead to contamination with droplet infections.

The infection mostly occurs on the hot summer days, especially in August or at the early autumn. The contamination through the sea water is quite common, so the disease is more frequently encountered during summer times.

In our case the lesions also appeared in August following a summer holiday.

The enterovirus as well as the Coxsackie viruses are resistant to all known antibiotics and chemotherapeutics. Also 70% alcohol, 5% lysol, 1% Rysol or similar laboratory disinfectants do not influence these viruses (13).

Aphthous stomatitis, herpetic gingivostomatitis and oral lesions of herpangina can mistakenly be identified in cases of Hand Foot and Mouth disease. In herpangina the lesions are localised on the front part of pharynx, soft plate and uvula (3-20).

In herpetic gingivo stomatitis the localization is the same, but the lesions are larger and high fever and servikal lymphadenopathy are added to the clinical features (3-20).

If the dentist do not think about this syndrome in the presence of the oral lesions described above and do not control hands and feet after checking the mouth, the diagnose can mostly sound as aphthous stomatitis or mild herpetic gingivostomatitis.

It will be wise to question the family about some red lesions or vesicles on hands and feet or walking difficulties. Thus the right diagnosis can be established and unnecessary epidemics avoided.

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