

ENTEROVIRAL VESICULAR STOMATITIS IN A PAEDIATRIC PATIENT DURING COVID 19 OMICRON PANDEMIC ERA – A CASE REPORT

Dr. R. Sangeetha

Professor, Ragas Dental College and Hospital, Uthandi, ECR, Chennai, India

ABSTRACT

Immunocompromised adults and paediatric population less than 5 years of age are affected by human enterovirus. Oral ulceration, skin eruptions on hands and feet along with fever and malaise are the characteristic signs and symptoms. The severity of the disease ranges from mild illness to life-threatening conditions. So physicians should be well aware of the early clinical signs and symptoms and should follow a standardized treatment guideline in order to avoid mortality in severe cases.

KEYWORDS: *Entero, Vesicular, Stomatitis, Viral Lesion, Oral Ulceration*

Article History

Received: 22 Jun 2024 | Revised: 24 Jun 2024 | Accepted: 30 Jun 2024

INTRODUCTION

Paediatric population of less than 5 years of age are affected by enteroviruses causing entero vesicular stomatitis. Meningitis, cardiovascular complications and encephalitis are complications of this disease. Oral ulcers, and rashes in relation to extraoral sites such as elbow, pal, buttock, knees and sole^[1] Main causative etiology dates to human enterovirus HEV-A . Coxsackievirus A (CA) 2–8, 10, 12, 14, 16 and enterovirus 71 (EV71) are few examples.^[2] CA 6 has been identified as a pathogen responsible for large-scale outbreaks in Europe.^[3]

The oropharyngeal route, direct vesicle contact, facial oral route and contaminated materials from the mode of transmission.^[4] A higher percentage of incidence is observed in the paediatric population of below two years of age while this rate is less among 3–5 years old.^[5] In countries of seasonal epidemics, clinical manifestation and virological investigation are of mandatory in practice thereby resulting in earlier diagnosis leading to effective management.

CASE REPORT

A 7 year old boy visited the Department of Dentistry with ulcers in the mouth since 1 week and he had problems with eating food. History revealed the presence of rashes and erythematous areas in the upper and lower extremities for 3 days. He visited the physician a day before and was under medication for fever.

On the day of his visit the patient presented with 101.3 F fever. General examination revealed multiple papulo-vesicular lesions on his palms [Figure 1], dorsal side of palm and foot as well as in knees. The same types of lesions were noted on the peri-oral region [Figure 2]. On intra oral examination, 3 scattered erythematous lesions with central necrotic area measuring about 4, 3 and 2 mm in diameter on the dorsum of the tongue were recorded. [Figure 2]. He maintained fair

oral hygiene and dental caries were detected in first primary molar on both sides of the mandible.

On the basis of history and clinical features, the diagnosis was given as HFMD. The patient was prescribed analgesic and antipyretic for symptomatic relief and advised to come for review after 5 days.

DISCUSSION

Highly infective HEV entero and coxsackie viruses are encountered in young children below five years of age and rarely in immunocompromised adults as they are highly sensitive to EV 71 and CVA 16. Oropharyngeal route, direct vesicle contact, facial oral route and contaminated materials from the mode of transmission of one week incubation period.^[4] Initial appearance of lesions pertaining to this disease is seen in the oral cavity. They appear even before the onset of lesions on the extremities and sometimes remain as the sole clinical sign. Skin lesions manifest as multiple papulo-vesicular rashes. Increased blood sugar levels, hyperlactosis, febrileness, pain in the stomach region, loss of appetite, dysphagia, nasal discomfort, muscle pain, lymphnode enlargement, nervous disorders, breathing disorders, cardiac disorders and increased white blood cell count^[6] Large scale outbreaks of this disease showing biannual pattern with the peak rise in summer and autumn have also been recorded. Recent trends depict an increase in a number of cases, in each epidemic. Apart from the characteristic presentation of hand, mouth and foot lesions, atypical form of HFMD cases demonstrate, oral mucosal stomatitis and Gianotti-Crosti mimicking growths in a symmetrical pattern of distribution in relation to the face, arms, legs and trunk along with pain and pruritus^[1] Oropharyngeal fluid, blood, nasal fluid, stool, and CSF are the sources of enterovirus.^[8] Real-time quantitative polymerase chain reaction is the common method used for enterovirus detection. CA6 enterovirus can be identified by neutralization tests.^{[9] [7]} Differential diagnosis includes Herpes Simplex. The diagnosis is narrowed by virology and serological investigations.^[7] This category of patients can be seen in the outpatient departments. To avoid cross-infection every patient has to be isolated. None of the drugs is available to counter enterovirus. Analgesics and antipyretic drugs should be prescribed for symptomatic relief. In severe cases of cerebral or pulmonary edema kindly monitor intake of liquids. Corticosteroids play an important role in case of encephalomyelitis.^[10]

CONCLUSIONS

Though in most cases, HFMD exhibits only mild illness, there were some cases in the literature that reported severe complications. Earlier diagnosis of the diseases by dental professionals and paediatricians followed by accurate management might reduce lethal complications in the paediatric population.

REFERENCES

1. *Mirand A, Cohen R, Bisseux M, Tomba S, Sellem FC, Gelbert N, Béchet S, Frandji B, Archimbaud C, Brebion A, Chabrolles H. A large-scale outbreak of hand, foot and mouth disease, France, as at 28 September 2021. Eurosurveillance. 2021 Oct 28;26(43):2100978.*
2. *Bian L, Wang Y, Yao X, Mao Q, Xu M, Liang Z. Coxsackievirus A6: a new emerging pathogen causing hand, foot and mouth disease outbreaks worldwide. Expert review of anti-infective therapy. 2015 Sep 2;13(9):1061-71.*
3. *Osterback R, Vuorinen T, Linna M, et al. Coxsackievirus A6 and hand, foot, and mouth disease, Finland. Emerg Infect Dis 2009;15(9):1485-8.2009*

4. Park SK, Park B, Ki M, Kim H, Lee K, Jung C, et al. Transmission of seasonal outbreak of childhood enteroviral aseptic meningitis and hand-foot-mouth disease. *J Korean Med Sci.* 2010;25:677–83.
5. Zhao, J., Jiang, F., Zhong, L. et al. Age patterns and transmission characteristics of hand, foot and mouth disease in China. *BMC Infect Dis* 16, 691 (2016).
6. Omaña-Cepeda C, Martínez-Valverde A, del Mar Sabater-Recolons M, Jané-Salas E, Mari-Roig A, López-López J. A literature review and case report of hand, foot and mouth disease in an immunocompetent adult. *BMC research notes.* 2016 Dec;9(1):1-1.
7. Li, XW., Ni, X., Qian, SY. et al. Chinese guidelines for the diagnosis and treatment of hand, foot and mouth disease (2018 edition). *World J Pediatr* 14, 437–447 (2018).
8. Li W, Teng GG, Tong HF, et al. Study on risk factors for severe hand, foot and mouth disease in China. *PLoS One* 2014;9:e87603.
9. Miyamoto A, Hirata R, Ishimoto K, et al. An outbreak of hand-foot-and-mouth disease mimicking chickenpox, with a frequent association of onychomadesis in Japan in 2009: a new phenotype caused by coxsackievirus A6. *Eur J Dermatol* 2014; 24(1):103-4
10. Wang SM, Lei HY, Huang MC, Su LY, Lin HC, Yu CK, Wang JL, Liu CC. Modulation of cytokine production by intravenous immunoglobulin in patients with enterovirus 71-associated brainstem encephalitis. *J Clin Virol.* 2006;37:47–52.

IMAGES



Figure 1: Shows Erythematous.



Figure 2: Figure 4 exhibits scattered erythematous lesions with central necrotic area measuring about 4, 3 and 2 mm in diameter on the dorsum of the tongue and few erythematous papules on peri oral area

