

A Study on Delayed Cutaneous Findings of Hand, Foot and Mouth Disease

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Abstract—

Objective: To describe different delayed cutaneous manifestations of hand, foot and mouth disease (HFMD).

Methods: This is a prospective follow up study which included all the children presenting with clinical features of HFMD. These children were followed up after a week and subsequently every two weeks for a period of three months for assessment of delayed cutaneous manifestations.

Results: Out of 38 patients on regular follow-up 13 (34.2%) developed different types of skin and nail changes. 9 showed features of onychomadesis, 5 developed nail discoloration, 6 had cutaneous desquamation & 2 presented with beau's line. Spontaneous re-growth of nails occurred in all cases within 12 weeks follow-up. Skin desquamation subsided by 2-4 weeks.

Conclusion: Delayed cutaneous findings following HFMD are common and self-limiting.

Keywords— Onychomadesis, nail discoloration, HFMD.

I. INTRODUCTION

Hand-foot-mouth disease is characterized by maculopapular, vesicular and/or pustular lesions over hands & fingers, feet, buttocks, groin and oral mucosa with or without low-grade fever. It is caused by coxsackie A virus, enterovirus 71, coxsackie B virus and some echoviruses⁽¹⁾. There have been several outbreaks of this disease in India since 2005⁽²⁻⁶⁾ but skin and nail changes are rarely documented. Epidemics were also reported from various Asia-Pacific regions^(7,8). Beau's line, onychomadesis, nail discoloration and cutaneous desquamation are various delayed manifestations of HFMD⁽⁹⁾.

II. METHODS

This prospective follow-up study was done at Hi-Tech Medical College & Hospital, Bhubaneswar from October 2017 to July 2018 with an objective to describe various delayed cutaneous findings associated with hand, foot and mouth disease (HFMD). All children presenting with clinical features of HFMD were enrolled in the study. Those with recent history of streptococcal infection, measles, Kawasaki disease and those with intake of drugs leading to nail matrix arrest (e.g. cloxacillin, carbamazepine, valproic acid) or trauma to nails were excluded. Follow-up was done after a week and subsequently every 2 weeks for a period of 3 months during which examination of the skin and nails were performed.

III. RESULTS

Out of 51 patients 38 were on regular follow up. Out of these 38 patients 13 (34.2%) developed different types of skin and nail changes. Details of the initial presentation are mentioned in table 1. 9 (23.7%) showed features of onychomadesis, 5 (13.2%) developed nail discoloration, 6 (15.8%) had cutaneous desquamation & 2 (5.3%) presented with beau's line. 7 out of 38 showed more than one

manifestations. The age of these 13 children ranged from 3 to 12 years. There was no predilection for either gender. The interval between appearance of rash and onset of nail changes ranged from 21 to 42 days. Onychomadesis and nail discoloration were commonly found in middle finger followed by thumb. Cutaneous desquamation was limited to palmo-plantar region which appeared after 2 to 3 weeks and subsided in the following 2 to 4 weeks. Spontaneous re-growth of nails occurred in all cases within 12 weeks follow-up.

TABLE 1. Initial presentations of HFMD

Symptoms	No. (n=13)
Fever	10 (76.9%)
Constitutional symptoms	5(38.4%)
Itching	3(23%)
Pain/burning sensation	8(61.5%)
Rashes on upper limb	10(76.9%)
Rashes on lower limb	8(61.5%)
Rashes on trunk	4(30.8%)
Rashes on face	2(15.4%)
Oral ulcers	4(30.8%)

IV. DISCUSSION

Onychomadesis is defined as a non-inflammatory condition with proximal separation of nail plate from nail matrix. Later on it may lead to shedding of nails as it was observed in Kar, et al.⁽⁶⁾. In our study complete shedding of nails followed by regeneration occurred in 5 out of 9 cases who had onychomadesis. Apart from HFMD it can also be seen in Kawasaki disease, nail trauma, measles, streptococcal infection and intake of certain drugs mentioned above.

In our study around 34% of cases developed delayed cutaneous manifestations of HFMD which is similar to the result of Nag, et al.⁽⁹⁾. Temporal relation between appearance of rashes and onset of nail changes were similar in both the studies.



Picture 1. Hand-foot-mouth disease



Picture 2. Onychomadesis and Beau's line

TABLE 2. Delayed manifestations of HFMD

Type of change	No. of cases (n=38)	Percentage
Onychomadesis	9	23.7%
Cutaneous desquamation	6	15.8%
Nail discoloration	5	13.2%
Beau's line	2	5.3%

Our study had the limitations of a hospital based study i.e. high loss to follow up and lack of etiological work up.

We conclude that delayed cutaneous manifestations following HFMD are seen in around one third of cases and they have a self-limiting benign course.

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What this study adds?

Though occurrence of nail and cutaneous changes following HFMD are common, parents should be counselled regarding the benign course of these illness.

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