



## Onychomadesis Following Hand-Foot Mouth disease Prospective Observational Study on 33cases of Hand Foot Mouth Disease

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### ABSTRACT

In 2019, an outbreak of hand, foot and mouth disease (HFMD) occurred in Maldives and many patients presented with onychomadesis following HFMD. Here we present a study of 33 cases out of which a total of 06 cases developed onychomadesis. Patients varied in clinical presentations ranging from mild to severe form of HFMD and during follow up 06 cases presented with periodic shedding of nails involving both fingernails and toenails. All the patients were observed 4 to 6 weeks after diagnosis of HFMD was made. It was observed that onychomadesis developed was not related to the severity of disease. Patients required only symptomatic treatment for HFMD and observation with assurance for onychomadesis as course was self limited. Nail changes were temporary in nature and spontaneous regrowth occurred after shedding of the nails. Parental counselling played a crucial role in management.

### Key words:

HFMD-Hand Foot Mouth Disease,  
Onychomadesis.

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### INTRODUCTION

Arrest of nail matrix has been attributed to many systemic diseases and drug exposures however most of the cases are idiopathic<sup>1,2,3</sup>. As a result of such arrest; nail dystrophy sets in; in the form of either Beus lines which represents slowing down of the growth and a milder form; or Onychomadesis which is a long term growth halt of nail matrix growth and a severe form. Both finger nails and toenails may be involved. In the past, many reports of association between hand foot mouth disease (HFMD) and Onychomadesis have been published<sup>4</sup>.

### CLINICAL CASES

All cases presented with features of hand foot mouth disease were classified into 3 categories; mild, moderate and severe on the basis of severity of clinical features. [Table-III]

Those having vesicular rash in abundance over hands feet and around and inside mouth with pain requiring hospitalization were classified as severe, And those cases who presented with vesicular rash on hands feet and mouth without much limitation of feeding were moderate and those who had mild form of rash were classified as mild. All the patients were diagnosed with HFMD on presentation and treated accordingly with follow up advice for any sequelae for a minimum of 6 weeks<sup>5</sup>. On follow up 06 patients presented with onychomadesis. Any significant history of trauma, systemic disease or periungual dermatitis were excluded. Out of 33 cases; 16 patients had a milder form of HFMD, 08 patients had moderate form of HFMD and 09 patients had severe form of HFMD. Apparently there was no relationship between onychomadesis and the severity of previous HFMD. Onychomadesis was found in 06 cases out of total 33 cases.

Shedding of nails in the fingers and toes were seen both in a sporadic form. In 2 cases both finger nails and toe nails were involved. Where as in 04 cases either finger nails or toe nails showed periodic shedding. [Fig: 1,2,3,4] In all 06 cases of onychomadesis, no treatment was required and nail changes were temporary with spontaneous normal regrowth.



**Fig: I Onychomadesis of fingernails**



**Fig: II Onychomadesis in toe nails**



Fig: III Onychomadesis in right toe nails



Fig: IV Onychomadesis in right toe nails

**Table I: Showing the severity and distribution of involvement of nails in all 6 cases developing onychomadesis**

Serial	Age	Sex	Severity	Onychomadesis/Site	Management
1	6Y 9M	M	Mild	Finger nails	Observation
2	1 Y1M	M	Mild	Toe nails	Observation
3	1Y1M	M	Severe	Both toe nails and finger nails	Observation /Hospitalization
4	4Y 4M	M	Moderate	Toe nails	Observation
5	3Y 10M	F	Severe	Finger nails	Observation
6	2Y6M	F	Moderate	Toe nails	Observation

**Table II: Showing gender frequency distribution among study subjects**

GENDER	FREQUENCY	PERCENT %
Male	21	63.6
Female	12	36.4
Total	33	100.0

**Table III: Showing distribution of study subjects based on severity of disease**

GROUP	FREQUENCY	PERCENT%
Mild	15	45.5
Moderate	8	24.2
Severe	10	30.3
Total	33	100.0

**Table IV: Showing the distribution of study subjects developing onychomadesis**

	FREQUENCY	PERCENT %
Onychomadesis present	6	18.2
Onychomadesis absent	27	81.8
Total	33	100.0

**Table V: Showing relation among three groups on the basis of severity of disease using ANOVA testing  
(P value is not significant)**

PARAMETERS	GROUP-I MILD (N=15)	GROUP-II MODERATE (N=08)	GROUP - III SEVERE (N=10)	P- VALUE
Onychomadesis Present	2	2	2	0.14 <sup>ns</sup>
Onychomadesis Absent	13	6	8	0.790 <sup>ns</sup>

## DISCUSSION

As a consequence of HFMD, Onychomadesis presents as painless, spontaneous separation of the nail plate, beginning at its proximal end<sup>16</sup> Hand- foot mouth disease (HFMD) in childhood is a relatively common viral illness. It is a self-limiting disease commonly seen in small epidemics. Such epidemics of HFMD have been reported in many publications in the past as well <sup>7,8,9</sup>. Literature has shown that adults run a milder forms of disease and are asymptomatic carriers. HFMD is characterized by fever that starts 2 to 3 days before the onset of rash which is maculopapular and vesicular in nature; Rash is mostly on hands, feet and mouth (inside and around). Viral strains related to the disease are Coxsackie virus A5, A6, A7, A9, A10, A 16 (most common), B1 , B2, B3, B5; Echo viruses like E3, E4, E9 and Enterovirus 71 <sup>10</sup>. Management of onychomadesis was observation in all the cases and results found were encouraging and regrowth of shedded nails was seen in all cases.

## CONCLUSION

Onychomadesis developed after HFMD is a self limiting condition that doesn't warrant any investigation nor does it require any specific treatment. Severity of disease doesn't have any relation with development of onychomadesis. Nail regrowth occurs without any deformity. Parental counselling and assurance play a very important role in management of Onychomadesis.

## CONFLICT OF INTEREST

None

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