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Case Report

Atypical yet real: hand, foot, and mouth disease beyond childhood– A rare adult case report

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Abstract

Background: Hand, foot, and mouth disease (HFMD) is a self-limiting viral exanthem primarily seen in children under the age of five, commonly caused by Coxsackievirus A16 and Enterovirus A71. Its manifestation in adults is rare and frequently misdiagnosed due to atypical and protean clinical features.
Objective: To report uncommon presentation of HFMD in an immunocompetent adult, highlighting the importance of diagnostic acumen in non-paediatric populations.
Case Presentation: A 31-year-old female presented with painful vesiculoulcerative lesions on the tongue, labial frenum, buccal mucosa, palms, fingers, and plantar aspects of feet, suggestive of an underlying viral etiology.
Management and Outcome: The patient was managed with oral Valacyclovir, topical Acyclovir, Benzydamine mouthwash, Paracetamol, and multivitamin supplement.
Conclusion: This case underscores the necessity of including HFMD in the differential diagnosis of adult patients presenting with oral and acral lesions. Recognising its atypical presentation in adults is critical for accurate diagnosis, effective containment, and timely management.

Keywords: Hand, Foot and mouth disease, Adult-onset, Viral exanthema, Mucocutaneous lesions, Coxsackievirus, Clinical mimicry.

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1. Introduction

Hand, foot, and mouth disease (HFMD), traditionally a paediatric viral exanthem, is predominantly orchestrated by Coxsackievirus A16 and Enterovirus A71.[1] Clinically, it manifests as pyrexia, enanthematous oral ulcerations, and vesiculopapular eruptions on acral sites.[2] Though well-documented in early childhood, adult-onset HFMD remains an infrequent and often misapprehended clinical entity due to its protean presentation and diminished diagnostic anticipation.

Recent literature denotes a resurgence of adult HFMD cases, often linked to Coxsackievirus A6, exhibiting exacerbated symptomatology—high-grade fever, intense mucocutaneous discomfort, and an elongated course.[3] These variants are frequently misattributed to herpetic gingivostomatitis, aphthous ulcers, or cutaneous adverse drug reactions, engendering diagnostic inertia.[4]

Transmission occurs via direct contact with infected secretions—salivary, faecal, or vesicular—rendering adults in caregiving or clinical environments particularly vulnerable. Although self-limiting in nature, the intensity of adult manifestations necessitates heightened clinical vigilance.[5]

This report elucidates a confirmed case of HFMD in an immunocompetent adult female, aiming to accentuate its diagnostic relevance beyond paediatrics. Greater awareness

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may curtail misdiagnosis, enable prompt intervention, and prevent nosocomial or community dissemination, especially during seasonal upsurges.

2. Case Presentation

A 31-year-old female presented to the department of Oral Medicine and Radiology with a chief complaint of painful ulcers on the left side of the tongue, present for one day. The patient also reported fever and malaise. Intraoral inspection disclosed multiple aphthoid erosions along the left lingual margin, labial frenulum, and buccal mucosa, encircled by erythematous halos. Lesions were exquisitely tender, resilient upon palpation, and exhibited a non-indurated substratum, as shown in **Figure 1**. Extraoral findings revealed erythematous maculopapular lesions on the palmar and digital lateral surfaces, as well as the plantar integument—sans vesiculation or exudation. The polymorphic mucocutaneous constellation, coupled with constitutional malaise, was pathognomonic for an adult variant of Hand, Foot, and Mouth Disease (HFMD), a seldom-encountered virotic masquerader.

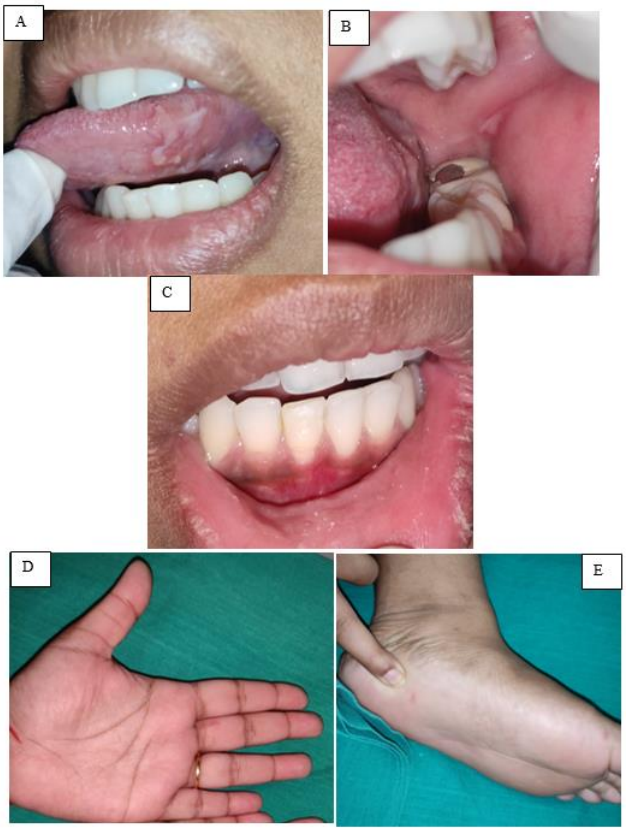

Figure 1: Oral enanthema of aberrant HFMD exemplified by: **A)** Lingual erosions; **B)** Buccal aphthae; **C)** Labial ulcerations; **D)** palmar exanthema; **E)** Confluent plantar ulcer—an oromucocutaneous tableau of virotic polymorphism

2.1. Differential diagnosis

Several conditions can mimic HFMD in adults, with Table 1 outlining the key differential diagnoses considered.

Table 1:

Condition	Standout signs
Aphthous Stomatitis	Solitary ulcers, no systemic signs, no hand/foot involvement
Herpetic Gingivostomatitis	Vesicular lesions, gingival bleeding, perioral lesions
Varicella (Chickenpox)	Lesions more generalized; trunk involvement predominates
Erythema Multiforme	Target lesions, often drug-related or post-infection
Pemphigus Vulgaris	Chronic course, mucocutaneous involvement, positive Nikolsky sign

3. Provisional Diagnosis and Management

Based on the clinical presentation and absence of any significant systemic or local predisposing factors, a provisional diagnosis of Hand, Foot, and Mouth Disease was made. The patient was managed with a combination of oral antiviral therapy (Valacyclovir 500 mg twice daily), Benzydamine mouthwash, topical Acyclovir 1% ointment thrice daily, and Paracetamol 650 mg as needed for pain and fever, along with a daily multivitamin supplement. She was counselled regarding supportive care—emphasizing hydration, oral hygiene, and was strictly advised to stay in home isolation, avoid all social interactions, and take complete rest for two weeks to prevent transmission. On review after 14 days, both oral and skin lesions had completely resolved, confirming the clinical diagnosis and a favourable response to treatment.

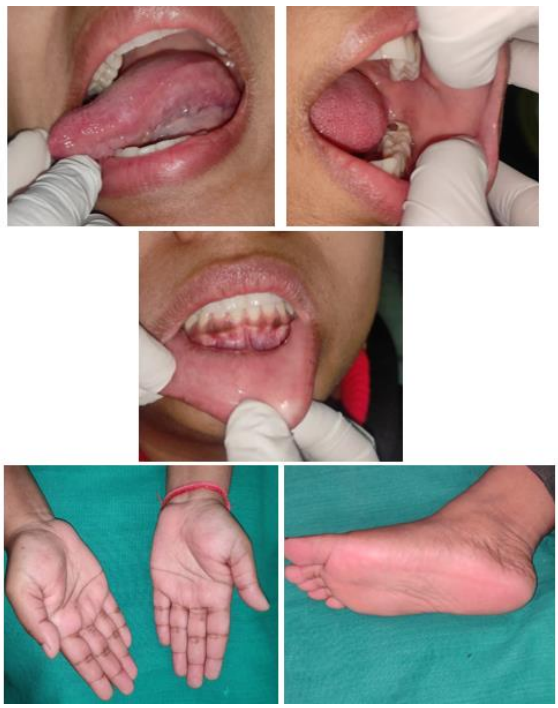

Figure 2: Post-treatment images after a two-week follow-up

4. Discussion

Hand, foot, and mouth disease (HFMD), traditionally confined to the paediatric nosological domain, has emerged

as a virological masquerader in immunocompetent adults—particularly amidst epidemiological surges or occupational paedocentric exposure.[6] Atypical adult presentations often entail febrile exacerbations, polymorphous vesiculopapular exanthems, mucosal ulcerations, and a languid clinical trajectory.[7]

Coxsackievirus A6 is increasingly implicated in these adult-onset phenotypes, superseding classical culprits such as Coxsackievirus A16 and Enterovirus A71. This serotype engenders expansive dermal involvement—encompassing facial, truncal, and acral surfaces—occasionally accompanied by onychomadesis during convalescence.[8] Adults exhibit a heightened immunoinflammatory response, contributing to pronounced oromucocutaneous symptomatology.[9]

Diagnosis remains primarily clinical, predicated on lesion topography and temporal evolution. However, RT-PCR assays from vesiculocutaneous oropharyngeal specimens afford virological confirmation during diagnostic ambivalence or outbreak scenarios.[10] Differential diagnoses encompass herpetiform stomatitides, erythema multiforme, pemphigus vulgaris, and Stevens-Johnson syndrome.

Management is predominantly palliative—antipyretics, mucosal anaesthetics, and rehydration sufficing in most cases. Antivirals like acyclovir or valacyclovir may be adjuvants in severe phenotypes, though with equivocal efficacy.[11] Domiciliary sequestration, stringent hygiene, and contact prophylaxis are imperative to mitigate contagion.[12] Though generally self-limiting within a decadal span, HFMD's adult manifestations warrant broader clinical perspicacity and nosocomial vigilance.

5. Conclusion

Traditionally confined to paediatric demography, hand, foot, and mouth disease (HFMD) is exhibiting epidemiological spillover into adult cohorts, especially amidst paedotropic exposure or nosocomial outbreaks. This case typifies classical oromucocutaneous involvement in an immunocompetent adult, broadening diagnostic heuristics. Given its protean presentations, HFMD may masquerade as other vesiculobullous dermatoses, engendering diagnostic inertia. Though largely self-limiting, expeditious recognition mitigates symptomatic morbidity, investigative superfluity, and community propagation. With genotypic drift and phenotypic variance on the rise, clinical acumen and robust public health prophylaxis are paramount in curtailing its proliferative trajectory.

This case adds valuable insight to the clinical understanding of HFMD in adults and serves as a reminder that viral diseases previously considered age-specific may no longer adhere to traditional epidemiologic boundaries.

6. Ethics Approval

Not applicable. Patient consent was obtained for treatment and image use.

7. Conflict of Interest

None declared.

8. Source of Funding

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9. Informed Consent

Obtained from patient/guardians before treatment and inclusion in this report.

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