



**INTERNATIONAL JOURNAL OF  
PHARMACEUTICAL SCIENCES**  
[ISSN: 0975-4725; CODEN(USA): IJPS00]  
Journal Homepage: <https://www.ijpsjournal.com>



## Research Paper

# Tomato Flu Virus in Children: Symptoms, Treatment and Prevention

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## ARTICLE INFO

Published: 08 May 2026

### Keywords:

Tomato flu, Pediatric infection, Viral infection, Hand, Foot, and Mouth disease, Coxsackievirus A16, Contagious disease

### DOI:

10.5281/zenodo.20083061

## ABSTRACT

Tomato flu is a recently identified viral infection that mainly affects young children. It was first reported in India on May 6, 2022. The disease is named after the red, tomato-like blisters that appear on the skin. Common symptoms include fever, tiredness, rashes, dehydration, and body pains. It is thought to be related to viral infections like hand, foot, and mouth disease. The infection spreads easily through contact with infected individuals and contaminated objects. There is no specific cure, and treatment mainly focuses on reducing symptoms through medications, fluids, and rest. Herbal remedies may also help in improving comfort and recovery. Proper hygiene and isolation are important to prevent its spread

## INTRODUCTION

Tomato flu is a highly contagious disease that has been appeared from an unknown viral infection. It was first recognized as a viral disease on May 6, 2022, in the state of Kerala, India. The disease is called Tomato flu because it's characterized by red colour, painful blisters on the body that look like a tomato. The infection mostly affects children under the age of five years. Tomato flu is believed to be related to hand, foot and mouth disease. This is commonly caused by the Coxsackievirus. The

coxsackie virus A16 type generally causes only mild illness. Even without special medical treatment, most patients recover naturally within 7-10 days.

Infection is transmitted from one person to another person by direct contact with the infectious virus, which is present in the saliva, blister fluid, nose and throat secretions, and stool of those who are infected. The virus is most frequently transferred by people's hands, mites, and by contact with surfaces that have been exposed to the virus. There is currently no definite evidence that maternal

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



enterovirus infection can cause untoward pregnancy outcomes such as abortion, stillbirth, or congenital abnormalities<sup>2</sup>.

Tomato flu could be an after-effect of chikungunya or dengue fever in children rather than a viral infection. The virus could also be a

new variant of the viral hand, foot, and mouth disease, a common infectious condition targeting major children aged 1-5 years and immune-compromised adults, and a few case studies have even shown HFMD in immunocompetent adults<sup>3</sup>.



Figure A: Tomato flu on hands



Figure B: Tomato flu on face



Figure C: Tomato flu on the feet.



Figure D: Tomato flu on the mouth

#### Symptoms<sup>4</sup>:

##### Primary symptoms:

- Fever
- Nausea and vomiting
- Dehydration
- Running nose
- Frequent cough

##### Secondary symptoms:

- High-grade fever
- Skin rash and skin irritation
- Large, spherical, reddish blisters
- Patches and discoloration on hands, buttocks and knees

#### EPIDEMIOLOGY<sup>5,6</sup>:

The first case of tomato flu was identified in the Indian state of Kerala on 6<sup>th</sup> May 2022. In that time, 82 cases have been reported from Kerala in

children under 6 years and 26 cases from Tamil Nadu in children less than 9 years, both states located in the south of India. 100 children with tomato flu, no other complications were reported. None of the children with tomato flu was admitted to the hospital, and self-recovery was reported. The government mandated isolation for infected individuals for 5-7 days with proper symptom guidance; the general public was encouraged to practise good hygiene and sanitation and to confine the infected persons and their possessions.

#### MANAGEMENT<sup>7,8</sup>:

The management of HFMD is mainly supportive, as the disease is self-limiting and usually resolves within 7-10 days. Patients are advised to take adequate rest and maintain proper fluid intake to prevent dehydration, particularly in young

children. Fever and body pains are controlled using medications like paracetamol or ibuprofen, while the use of aspirin is avoided. Painful mouth ulcers can be managed with soothing oral preparations, salt water rinses, and by consuming soft and non-spicy foods. Skin rashes and blisters usually heal without specific treatment, but cleanliness should be maintained to avoid secondary infection.

There is specific antiviral therapy approved for HFMD; however, drugs like acyclovir and oseltamivir may be used in severe cases, although their effectiveness is limited. Patients with severe symptoms such as persistent fever, dehydration, and neurological complications require hospitalization and intensive care management. Isolation of the patient for 5-7 days, maintaining proper hygiene, and avoiding close contact are important preventive measures to control the spread of infection. Drug re-purposing and vaccination are the most efficacious and cost-effective approaches to ensure public health safety from viral infections, in children and older people.

### TREATMENT<sup>9,10,11</sup>:

Tomato flu is caused by CV-A16 (Coxsackievirus A16). There is no specific antiviral treatment for HFMD. Only the symptoms are managed like any other flu with antipyretic and analgesics accordingly; ibuprofen or acetaminophen can be used to treat the fever. The infection is presented with usual symptoms of flu, such as fever, fatigue

and body aches. It seemed like red, painful blisters that grew to the size of a tomato.

Treatment is divided into 2 types. They are;

1. Allopathic treatment
2. Herbal treatment

#### Allopathic treatment:

**Antipyretic:** used to control high temperature. It helps prevent complications like dehydration, weakness, and febrile discomfort.

**Examples:** Paracetamol, Ibuprofen.

**Analgesics:** used to relieve body pains, headaches, and inflammation. It works by inhibiting prostaglandins, thereby reducing pain signals and swelling in tissues.

**Examples:** Paracetamol, Ibuprofen

**Antihistamines:** used to control itching and allergic-type reactions caused by skin lesions. They block histamine release, reducing irritation and improving patient comfort.

**Example:** Cetirizine

**Hydration therapy:** used to maintain fluid and electrolyte balance, especially in children who may lose fluids due to fever. It prevents dehydration, fatigue, and complications like electrolyte imbalance.

**Example:** ORS solution, water.

**Skin care:** the purpose is to soothe skin irritation, reduce itching, and protect blisters from secondary infection. It also provides a cooling effect.

**Example:** Calamine lotion.

#### Herbal treatment:

##### Method 1:

REMEDY	INGREDIENTS	QUANTITY
Neem water bath	Neem leaves	20-30 leaves
	Water	2-3 litres

Boil leaves in water for 10-15 min, cool the water and use for bathing or washing affected skin 1-2 times daily. It may prevent the infection and reduce itching.

#### Method 2:



Remedy	Ingredients	Quantity
Turmeric paste	Turmeric powder	1-2 tablespoons
	Water	Quantity sufficient
	Coconut oil	Few drops

Mix to form a paste and apply a thin layer on blisters 1-2 times daily. It provides healing

### Method 3:

Remedy	Ingredients	Quantity
Herbal juice	Tulsi leaves	5-6 leaves
	Ginger	1 inch
	Honey	1 tablespoon

Crush Tulsi leaves and ginger extract juice, mix with honey, and take 1- 2 times daily. It may boost immunity relieves symptoms.

### Method 4:

Remedy	Ingredients	Quantity
Aloe vera gel	Fresh Aloe vera leaves	1-2 tablespoons

Extract gel from the leaf. Apply to rashes 1-2 times daily. It may provide cooling and skin healing.

### PREVENTION<sup>12,13,14</sup>:

- ❖ Tomato flu, being a highly contagious infection, patients should be advised not to scratch the skin blisters. Since it commonly affects children, preventing them from scratching the infectious blisters is critical.
- ❖ Maintain through cleanliness and hygiene.
- ❖ Maintain a safe distance from the affected individual and do not have direct contact with the affected individual.
- ❖ Creating awareness among the public.
- ❖ Preventing dehydration, particularly in young children, with oral rehydration solutions and fluids.
- ❖ A well-balanced diet should be followed regularly, which helps to maintain good immunity.

- ❖ If any of the family members become symptomatic, they should be isolated immediately and should consult a doctor.
- ❖ All children and adults should wash their hands regularly and thoroughly, especially after changing diapers and or using the toilet.
- ❖ Separating and regularly sanitizing items such as cloths, bedding, and utensils is also an effective measure to control infection.
- ❖ Bathe or clean with warm water.
- ❖ Overcrowding should be avoided.

### SUMMARY:

Tomato flu is a contagious viral disease mostly in children under 5 years of age. It presents with symptoms such as fever, skin rashes, blisters, weakness, and dehydration. The disease spreads through close contact, poor hygiene, and other items. Diagnosis is based on clinical symptoms. The disease is self - limiting and usually resolves within 7-10 days without severe complications. Treatment focuses on relieving symptoms with antipyretics, analgesics, and antihistamines with adequate fluid intake. Herbal treatments such as neem baths, turmeric paste, Tulsi juice, and aloe Vera gel are also used for symptom relief and skin healing.

Preventive measures such as maintaining cleanliness, avoiding contact with infected individuals, and isolating patients are essential to control the infection. Awareness and early management can help reduce the spread of infection.

### CONCLUSION

Tomato flu is an infectious but self- limiting disease that mainly affects children. Even though

it is not life-threatening, it spreads quickly and causes discomfort. Since there is no specific antiviral treatment, but proper care, including both allopathic medicines and traditional remedies, helps in faster recovery. Increasing awareness, maintaining sanitation, and isolating infected individuals are key strategies to control outbreaks and protect public health.

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**HOW TO CITE:** U. Sheethal, D. Thanuja, Dr. M. Neelima, K. Thanuja, A. Lakshmi prasanna, B. Bhuvanewari, Tomato Flu Virus in Children: Symptoms, Treatment and Prevention, *Int. J. of Pharm. Sci.*, 2026, Vol 4, Issue 5, 1774-1778, <https://doi.org/10.5281/zenodo.20083061>

