

# Tomato Flu

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**Abstract-** Tomato flu is an infectious disease brought on by an unknown virus. A new virus known as tomato flu is feared in some parts of Kerala. By May 11th, 2022, 80 state children under the age of five had already been affected. "The Coxsackie virus A 16 produces the "tomato flu "primarily impacts young children under the age of five. A "Hand, Foot, and Mouth disease" is tomato flu. The term "tomato flu" describes Blisters in the shape of tomatoes on various body areas. The viral illness known as "tomato flu" can produce skin rashes and blisters on different regions of the body, as well as skin irritation and dehydration in youngsters. The clinical history, physical examination, and some laboratory tests including CRP, ALT, and AST are used to make the diagnosis of this tomato flu.

Tomato flu symptoms include the primary symptoms of tomato flu include nausea, vomiting, runny nose, sneezing, frequent coughs, and little red blisters.

It is a self-limiting infection that resolves in 7–10 days on its own Always use warm water to wash skin or bathe children. To boost your immune system, eat a balanced diet that is rich in nutrients. The most secure and reliable method of preventing tomato flu is to keep good general measures and vaccination.

**Keywords:** Fever, Human Immunity, Effectiveness, Disease, Hand Foot Mouth disease, rashes, Coxsackivirus A16, Humen enterovirus 71, Chikungunya , Monkeypox virus , Varicella-zoster virus , Herpes.

## INTRODUCTION

Tomato flu is an infectious disease that is caused by an unexplained viral organism detected first in Kerala, India in May 2022. The infection was named 'Tomato flu' due to its main symptom, the tomato-shaped blisters all over the body. (1, 2) The presentation initially starts as a red-coloured small blister which then enlarge to resemble the shape of a tomato, hence the name 'Tomato flu', also synonymously known as 'Tomato fever. (3) It predominantly affects children below the age of 5 years. Strong immunity against the tomato flu virus might be the reason for its low incidence in adults. (3) On May 6, 2022, the Kollam district of Kerala reported the first case of the tomato flu; by July 26, 2022, more than 82 children under the age of five had contracted the virus. The local government hospitals have recorded cases of infection. (4) Tomato flu is a "Hand, Foot, and Mouth disease" (HFMD), the common viral infection according to Dr. Amar S Fettle, Epidemiologist and State Nodal Officer of Kerala. (5) Hand, foot and mouth disease (HFMD) is a typically benign viral infection of the childhood, and the disease was first described in 1948. Coxsackievirus A16 (CV-A16) and human enterovirus 71(EV-A71) are the major pathogens responsible for HFMD. Astha infection was deemed a mild viral infection, associated with self-limiting clinical features that resolved within 5 to 7 days, HFMD did not receive a lot of attention for a long time (6) This disease was rapidly spreading among young children. As of now, it has been identified that 'Tomato Flu' is caused by CV-A16. Hence, 'Tomato Flu' is now considered a misnomer and the clinical features of this disease are discussed as an atypical presentation of HFMD (7) Coxsackie A16 (CA16), EV A71, Coxsackie A6, Coxsackie B, and Echo viruses are the enteroviruses (EV) that cause the common febrile rash sickness known as hand, foot, and mouth disease (HFMD) (8) Skin rashes on the palms of the hands and soles of the feet, dehydration from mouth sores, and fever are the typical signs of HFMD. (9) High fever, rashes, and excruciating joint pain are the main symptoms seen in children with tomato flu, which are similar to those of chikungunya. (10) Without medical care, almost all patients recover in about 7 to 10 days. (11) These blisters resemble those seen with the monkeypox virus in young individuals. (12,13) Rashes also appear on the skin with tomato flu that led to skin irritation. As with other viral infections, further symptoms include fatigue, nausea, vomiting, diarrhoea, fever, dehydration, swelling of joints, body aches, and common influenza-like symptoms, which are similar to those manifested in dengue. (14)

Images





## PREVENTATION

### Diagnosis

The diagnosis of Tomato flu is usually done clinically. Detection of virus can be found in stool for around six weeks post infection, though shedding through oropharynx is typically less than 4 weeks. Tomato flu can be differentiated from varicella-zoster virus and herpes simplex virus by performing light microscopy biopsies or by scrapings of vesicles. Levels of IgG can be utilized to monitor recovery as serology is nonsensitive to diagnosis of Tomato flu. Polymerase chain reaction assays are useful in determination of coxsackievirus, though serology is useful in differentiation of enterovirus 71 from coxsackievirus, as it has analytical implication. RT-PCR is useful in detection of

coxsackievirus or enterovirus using swab of lesion. (Guerra AM., 2022, Broccolo F., 2019) Laboratory test- Routine blood tests and C-reactive protein (CRP), In most of the cases the white blood cell count remains normal. In some of the cases, leucocytosis along with neutrophilia may be detected. Elevation in CRP can be observed.

## EPIDEMIOLOGY

The disease outbreak started in the Kollam district of Kerala where around 82 cases of Tomato flu have been reported till May 13, 2022, and the numbers are expected to go up further. A four-year-old child from Aryankavu, a village near the Kerala-Tamil Nadu border is the first case of Tomato flu which was reported on May 6, 2022.<sup>12</sup> Since then, 26 cases were found to be positive for Hand, Foot and Mouth disease in Orissa which is presumed to be Tomato flu.<sup>13</sup> The first case of HFMD was described in Birmingham in 1959. While HFMD is endemic in many countries, outbreaks of EVA71 associated HFMD has been seen every 2-3 years in Asia Pacific countries with varying clinical pictures, namely China, Japan, Singapore, Malaysia, Australia, Cambodia, Taiwan, Thailand, South Korea, and Vietnam. Human-to-human transmission of HFMD is possible through faecal-oral route, direct contact, and respiratory droplets [21] The first instance of tomato flu, which was recorded on May 6, 2022, was a four-year-old child from Aryankavu, a village close to the border between Kerala and Tamil Nadu. (27) Since then, 26 cases in Orissa have tested positive for the disease Hand, Foot, and Mouth, which is thought to be tomato flu. (16)

## Clinical Features

**Tomato flu is considered the aftermath of chikungunya or dengue infection due to the similarity of their symptoms, though their correlation has not yet been proved.<sup>14</sup> The common presenting symptoms that have been identified so far are as follows:**

- **Large, spherical, reddish blisters on multiple parts of the body**
- **High-grade fever**
- **Dehydration**
- **Skin rash and skin irritation**
- **Myalgia**
- **Swollen and painful joints**
- **Other uncommon symptoms are:**
  - **Nausea and vomiting,**
  - **Running nose,**
  - **Sneezing,**
  - **Frequent coughs,**
  - **Patches and discoloration on various body parts including hands, buttocks and knees,**
  - **Abdominal pain and cramps,**
  - **Feeling of tiredness,**
  - **Fatigue.**

## RISK FACTORS

Children are at heightened risk of exposure to tomato flu as viral infections are widespread in this age range and spread is likely to occur through close contact," the Lancet paper, which was released on August 17, stated. Young children can catch this virus via touching dirty surfaces, using diapers, and putting objects directly in their mouths. (9) It is a very contagious virus that can be transmitted through respiratory secretions from the mouth and nose as well as through food and unwashed hands via the faecal oral route. Children under the age of five are particularly 15

## CONCLUSION

According to our study we will conclude that, the diagnosis of this tomato flu is based on the clinical history, physical investigation, and some of the laboratory test such as CRP, ALT and AST. Also, Nausea, vomiting, running nose, sneezing, frequent coughs are the major symptoms of tomato flu. Due to the absence of specific treatment for this disease, the symptoms are managed only on the basis of other flu like treatment with antipyretics and analgesics. The disease prevented by maintaining good personal hygiene and Vaccination is the most safe and effective way of prevention of Tomato flu.

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