Case Report

Pharyngoconjunctival Fever with Atypical Gastrointestinal and Cutaneous Manifestations: A Pediatric Case Report

Navya Hegde[1], Shashikiran Singh[1], Venu Kulkarni[2]

From, [1]Paediatric Medical officer, Government Multi Speciality Hospital, [2]MD Paediatric DM Neonatology (PGIMER) Chandigarh, India

ABSTRACT

Pharyngoconjunctival fever (PCF) is a distinct clinical syndrome characterized by high fever, pharyngitis, and non-purulent conjunctivitis, typically following human adenovirus (HAdV) infection. While adenovirus is generally a self-limiting condition in immunocompetent patients, it can present as a "Pandora's box" of atypical systemic complications. This report describes a 10-year-old male presenting with the classic PCF triad alongside significant hematemesis and a widespread maculopapular rash. The clinical course was complicated by respiratory distress requiring supplemental oxygen and two episodes of gastrointestinal hemorrhage (~500 mL) followed by melena. Diagnostic confirmation was achieved via polymerase chain reaction (PCR) of throat and conjunctival swabs, which were positive for Adenovirus. Laboratory investigations ruled out common differentials including Dengue, Kawasaki disease, and Scarlet fever. Following supportive management with intravenous proton pump inhibitors, ophthalmic steroids, and respiratory support, the patient achieved full clinical resolution without sequelae. This case highlights the necessity for clinicians to recognize gastrointestinal and cutaneous manifestations as rare but possible components of the PCF spectrum to avoid diagnostic delays and ensure appropriate supportive intervention.

Key words: Pharyngoconjunctival fever, Adenovirus, Hematemesis

A triad of high fever, pharyngitis, and non-purulent conjunctivitis clinically defines Pharyngoconjunctival fever (PCF). This syndrome is primarily associated with Human Adenovirus (HAdV) infection, specifically strains 1–8, 7a, 14, and 37. As members of the *Adenoviridae* family and *Mastadenovirus* genus, these double-stranded, non-enveloped DNA viruses are categorized into seven species (A–G), with more than 80 recognized types capable of human infection [1]. The incidence of HAdV infection peaks in infants and children between six months and five years of age. By five years of age, approximately 70% to 80% of children possess neutralizing antibodies to HAdV types 1 and 2, while approximately 50% have antibodies to type HAdV-5. The clinical course typically features an abrupt onset of symptoms, with pharyngeal and ocular findings generally resolving within seven days [2]. While the condition is usually self-limiting in healthy individuals, HAdV poses a severe risk of dissemination and high fatality rates in immunocompromised hosts, where mortality for severe pneumonia can exceed 50% [3]. Despite the typically benign nature of PCF, HAdV can present a "Pandora's box" of clinical challenges, manifesting with unforeseen or undesirable systemic complications [4, 5]. While the virus is a common cause of pediatric illness, its capacity to induce severe gastrointestinal and cutaneous symptoms in immunocompetent patients is less frequently documented. This report describes a rare case of PCF in a 10-year-old male featuring significant hematemesis and a widespread maculopapular rash.

CASE PRESENTATION

A 10-year-old boy (weight: 35 kg; height: 138 cm) was admitted with a three-day history of high-grade remittent fever, a two-day history of sore throat, and a one-day history of redness and watering of the left eye. Before admission, the patient experienced a non-productive cough and vomiting, both of which had progressively increased in

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Correspondence to: Dr. Venu Kulkarni, MD Paediatric DM Neonatology (PGIMER) Chandigarh, India

Email: venukulkarni13@gmail.com

frequency. The patient presented with a non-pruritic maculopapular rash that originated on the neck and progressed to the chest, back, and abdomen, sparing the palms and soles (Figure 1). There was no history of joint pain, animal contact, or recent travel. Physical examination revealed a temperature of 101°F, heart rate of 100 beats per minute, and blood pressure of 110/66 mmHg. Clinical findings included mobile cervical lymphadenopathy (1.5–2 cm), a strawberry tongue, and bilateral inflamed, swollen tonsils. Ophthalmic examination via speculum identified red-colored follicles on the palpebral surfaces of the left eye without corneal involvement (Figure 2).

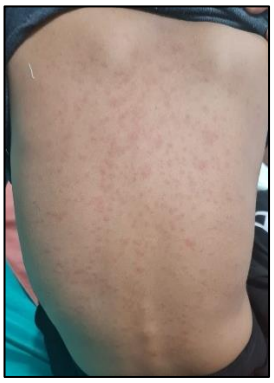

Figure 1. Maculopapular rashes

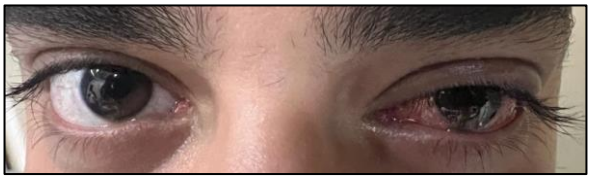

Figure 2. Ophthalmic involvement on the left side.

Systemic examination revealed no hepatosplenomegaly, although bilateral conductive lung sounds were present. The clinical course was complicated by the development of tachypnea and tachycardia. Oxygen saturation decreased to 90%, necessitating 2L/min of supplemental oxygen via nasal prongs; chest radiography subsequently showed heterogeneous granularity in the bilateral lower zones. The patient also experienced two episodes of hematemesis (approximately 500 mL total) accompanied by severe epigastric pain, followed by two days of melena.

Diagnostic investigations showed a decline in hemoglobin from 11.8 gm/dl at admission to 10.2 gm/dl following the hemorrhagic episodes. Inflammatory markers were elevated, including a C-reactive protein (CRP) of 9.9 mg/dl and an erythrocyte sedimentation rate (ESR) of 20 mm/hr. Urinalysis revealed sterile pyuria (8–10 pus cells). Blood and urine cultures were sterile, and serology for Dengue and Scrub Typhus (IgM) was negative. Diagnostic confirmation was achieved through PCR testing of throat and conjunctival swabs, which were both positive for Adenovirus. The differential diagnoses were considered based on overlapping clinical features, but characteristic findings and relevant laboratory tests were absent or negative, making infectious mononucleosis, scarlet fever, Kawasaki disease, dengue, and rickettsial fever unlikely (Table 1)

MANAGEMENT AND OUTCOME

The patient received comprehensive supportive care in an isolation room. Hematemesis was managed with intravenous pantoprazole and a 24-hour "nil per mouth" (NPM) status, followed by a transition to a soft, bland diet. Respiratory distress was treated with 2L/min supplemental oxygen. For ocular symptoms, the patient was prescribed ophthalmic loteprednol and moxifloxacin drops. Fever was managed with paracetamol. Significant clinical improvement was observed within 48 hours of treatment. The maculopapular rash and respiratory signs resolved within one week, and the cutaneous lesions healed completely without any residual pigmentation. Pharyngitis and tonsillar inflammation required 10 days to reach full resolution. The patient was discharged after one week of hospitalization. Two post-discharge follow-up consultations confirmed a return to baseline health with no ophthalmic sequelae or recurrence of symptoms.

Table 1 – Differential Diagnosis

Diagnosis	Clinical Features Supporting the Diagnosis	Clinical Features/Test Results Excluding the Diagnosis
Infectious Mononucleosis	Fever, pharyngitis, and cervical lymphadenopathy.	Absence of splenomegaly and no lymphocytic pleocytosis on differential count.
Scarlet Fever	Strawberry tongue, fever, and pharyngeal inflammation.	Absence of Pastia lines or "sandpaper" skin texture; sterile blood cultures.
Kawasaki Disease	Unilateral cervical lymphadenopathy, non-purulent conjunctivitis, and sterile pyuria.	Patient age and fever duration of less than five days made this diagnosis unlikely.
Dengue Fever	Fever, rash, and upper gastrointestinal bleeding.	Negative IgM, IgG, and NS1 serology; absence of thrombocytopenia.
Rickettsial Fever	Fever, rash, and gastrointestinal symptoms.	Negative Scrub Typhus IgM serology.

DISCUSSION

The presentation of hematemesis and a widespread maculopapular rash in an immunocompetent pediatric patient represents a significant departure from the typical clinical course of PCF. While adenovirus is a ubiquitous pathogen, these specific systemic manifestations are rarely documented in the absence of underlying immunodeficiency.

The gastrointestinal findings in this case align with limited previous literature. Bye et al. documented hematemesis and melena in an 11-year-old in whom HAdV Type 7 was isolated from stool and throat swabs [6]. Similarly, Gupta et al. identified HAdV Type 7 in gastric and esophageal erosions in young children presenting with hematemesis. While upper gastrointestinal endoscopy was not performed in this case due to the rapid response to pantoprazole, the temporal association and PCR results strongly suggest HAdV as the primary etiological agent for the mucosal irritation [7].

Cutaneous manifestations in HAdV are also uncommon. While some literature, such as Niedermeier et al., describes asymmetric or lateralized exanthems that persist for several weeks, the rash in this patient was bilaterally symmetrical and short-lived, resolving within seven days [8]. This suggests that the cutaneous spectrum of adenovirus may be more diverse and symmetrical than currently characterized in some case series [9, 10].

The primary limitation of this case study was the inability to perform an esophagogastroduodenoscopy (EGD) or obtain a stool culture for adenovirus. However, the diagnostic process successfully ruled out other major pediatric etiologies. This case report highlights that clinicians should maintain a high index of suspicion for systemic HAdV manifestations to ensure that atypical presentations of this common virus do not lead to diagnostic delays or unnecessary invasive procedures for rare diseases.

CONCLUSION

Clinicians must recognize that gastrointestinal bleeding and maculopapular rashes can occur within the clinical spectrum of Pharyngoconjunctival fever. The successful management of this complex adenovirus presentation underscores the importance of thorough clinical evaluation and prompt, comprehensive supportive care.

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