

Diagnostic dilemmas in viral hemorrhagic fevers: A case report and literature review

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ABSTRACT

The main aim of this case study was to describe the clinical presentation and course of dengue hemorrhagic fever (DHF), as well as to evaluate the effectiveness of current diagnostic and treatment approaches. This case study focuses on an 18-year-old boy who presented to a nearby hospital in Khambhat with a 3-day history of high fever, severe body ache, and mild throat pain. Based on clinical investigations, the patient was diagnosed with DHF and treated accordingly. His platelet count initially decreased and subsequently increased gradually during treatment. This case highlights the severity of DHF and the importance of timely intervention and effective management. Supportive care, including blood and platelet transfusions, was crucial in managing the severe presentation. Effective management of DHF requires appropriate fluid resuscitation, electrolyte balance, blood products when indicated, and close monitoring. Clinically, patients may present with non-specific symptoms, underscoring the need for early laboratory confirmation using NS1 antigen and IgM antibody testing. Governments should enhance surveillance and reporting, provide accessible healthcare services, and conduct public awareness campaigns. This case illustrates the significance of prompt intervention, including fluid resuscitation and close monitoring, which played a vital role in recovery.

Key words: Case study, Dengue fever, Dengue hemorrhagic fever, Healthcare services, Patient

Dengue is a self-limiting acute infectious disease caused by an arbovirus with four serotypes and transmitted by the bite of infected female Aedes mosquitoes. The epidemiology of dengue is a complex phenomenon that mainly depends on an intricate relationship among three epidemiological factors: The host (human and mosquito), the agent (virus), and the environment (abiotic and biotic factors) [1,2].

The present case was reported to describe the clinical presentation and course of dengue hemorrhagic fever (DHF) in a specific patient and to evaluate the effectiveness of current diagnostic and treatment approaches.

CASE REPORT

An 18-year-old boy presented to a nearby hospital in Khambhat with a 3-day history of high fever, severe body ache, and mild throat pain. When he consulted the physician, he was examined and prescribed paracetamol (3 times a

day), rabeprazole (twice a day), Cetfast (an antihistamine, once a day), and Betamox-LB (containing amoxicillin, cloxacillin, and lactic acid bacillus; three times a day). However, the patient did not obtain relief. Therefore, he revisited the physician after 2 days.

After examination, the physician diagnosed a possible allergy to amoxicillin and cloxacillin. Certain adverse effects, including increased throat pain, erythema, mild ulceration, nausea, and abdominal pain, were observed. Therefore, the physician replaced the penicillin antibiotic with the cephalosporin antibiotic cefixime, along with an antiemetic and multivitamin tablets.

He was also prescribed blood investigations, including a complete blood count, C-reactive protein, Widal test, and dengue test. Based on the blood reports, the patient was diagnosed with dengue fever (DF). His dengue NS1 antigen was positive. His platelet count decreased to 105,000/cu mm, hemoglobin was 13.2 g/dL, and hematocrit (HCT) was 38.8%. Despite these medications, no improvement was observed in the patient (Table 1).

On the 5th day of treatment, the patient's condition deteriorated. He suddenly developed nasal bleeding;

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Table 1: Laboratory report data of the patient

Investigation	Result
Hemoglobin	11.9
DC, TC	11,200
Platelet count	16,000 → 95,000/cu mm
Serum bilirubin	Direct: 0.2; Indirect: 0.3
SGOT, SGPT and ALP	178/87/81
Bleeding time; Clotting time	Not reported
Total protein	6
Serum albumin	3.5
Fasting blood sugar	120
Blood urea	1.6
Serum creatinine	0.6
HBsAg	Negative
Serum widal	Negative
Blood group	Not reported
Sodium	137
Potassium	4.5
Chlorine	105
Lactate dehydrogenase	801
C-reactive protein	1.1

DC: Differential count, TC: Total count, SGOT: Serum glutamic-oxaloacetic transaminase, SGPT: Serum glutamic-pyruvic transaminase, ALP: Alkaline phosphatase, HBsAg: Hepatitis B surface antigen

therefore, his parents immediately took him to the same hospital. After physical examination, the physician advised further investigations. The results were as follows: Platelet count decreased from 105,000/cu mm to 20,000/cu mm, hemoglobin was 12.8 g/dL, and HCT (hematocrit) was 39.3%. Considering the severity of the case, the physician advised emergency platelet transfusion. Because platelet transfusion facilities were unavailable, the patient was referred to a multispecialty hospital in Vadodara (Table 1).

On the 5th day, the patient was admitted to the emergency ward of a multispecialty hospital in Vadodara. The on-duty doctor suspected DHF based on the patient's previous reports. Based on the symptoms, management was initiated, and routine blood investigations were advised soon after admission. The results showed a further decrease in platelet count by 10,000/cu mm, and a urinary tract infection (UTI) was also detected. Therefore, DHF with UTI was confirmed.

Immediate platelet transfusion was administered, along with other medications, including Trenaxa, Vitamin K, pantoprazole, leucovorin, MV 1 + Vitamin B12, normal saline/Ringer's lactate through intravenous infusion, paracetamol, cefixime, Xone (for treatment of UTI), ondansetron, oral rehydration salts sachets, and multivitamin B-complex/folic acid A.

Platelets were infused within 1 day, and blood samples were obtained at 24-h intervals. The patient was admitted for 5 days. During this period, due to weakness, he was managed with intravenous fluid resuscitation, close monitoring of vital signs, and conservative treatment. On the 5th day of hospitalization, improvement was observed. The platelet count increased from 10,000/cu mm to

95,000/cu mm. There was no further nasal bleeding or other significant symptoms apart from weakness, and the UTI was also cured. After reviewing the blood reports and observing a gradual increase in platelet count without other associated signs, the treating team decided to discharge the patient.

At the time of discharge, the patient was still weak. The doctor prescribed multivitamin supplements, paracetamol, and other medications and advised him to return after 1 week for a health check-up. Subsequently, the patient's platelet count returned to normal. The doctor advised him to take appropriate precautions to prevent similar life-threatening diseases. The patient subsequently recovered completely and was living a healthy life.

DISCUSSION

This case illustrates the rapid progression of DHF and highlights the importance of early diagnosis, vigilant monitoring, and timely intervention to improve outcomes. The management of DHF requires accurate diagnosis and early detection of hemorrhagic manifestations. The study also underscores the need for community awareness regarding dengue-prevention measures. Community actions are essential, including reporting suspected cases to health authorities, participating in mosquito-control programs, educating others about prevention measures, and supporting affected individuals. Governments and healthcare systems should enhance surveillance and reporting, provide accessible healthcare services, implement vector-management measures, and conduct public awareness campaigns.

The four dengue virus serotypes are designated DEN-1, DEN-2, DEN-3, and DEN-4. Dengue virus infection may be asymptomatic or may cause an undifferentiated febrile illness (viral syndrome), DF, or DHF, including dengue shock syndrome (DSS). DHF is more common in children younger than 15 years but can also occur in adults. DHF is characterized by acute onset of fever and associated non-specific constitutional signs and symptoms [3,4]. Plasma leakage is the hallmark of DHF and occurs soon after the end of the febrile phase [5]. In DHF/DSS, coinciding with defervescence, the patient's condition may suddenly worsen, with marked weakness, severe restlessness, facial pallor, and circumoral cyanosis. Hemorrhagic manifestations may include scattered petechiae, a positive tourniquet test, easy bruising, and epistaxis, bleeding at venipuncture sites, petechial rash, and gum bleeding [6]. The incubation period for dengue infection is 4–7 days (range, 3–14 days) [7]. After the incubation period, the illness begins abruptly and progresses through three phases—febrile, critical, and recovery – as described by WHO (2009). Early recognition and understanding of the clinical problems during the different phases facilitate a rational approach to case management and improve clinical outcomes. This is particularly important for the treatment of plasma leakage with oral or intravenous rehydration [8,9].

To mitigate the risk of DHF, individuals should prioritize preventive measures and seek medical attention promptly if symptoms worsen. Collective efforts can reduce the risk of DHF.

CONCLUSION

This study highlights the critical importance of early diagnosis and effective management of DHF in improving patient outcomes. This case illustrates the significance of prompt intervention, including fluid resuscitation and close monitoring, which played a vital role in recovery. Furthermore, it emphasizes the necessity of community education and preventive measures to combat dengue transmission. Overall, successful management of DHF relies on a comprehensive approach combining clinical vigilance, public health initiatives, and ongoing research to mitigate the impact of the disease. It also emphasizes the need for heightened clinical awareness, effective management strategies, and community education to improve patient outcomes.

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AUTHORS' CONTRIBUTIONS

Dr. Upama N. Trivedi provided guidance in defining the study title and developing the methodology for the clinical case study. Rachna S. Patwa and Unnati S. Patwa contributed to the preparation and drafting of the manuscript based on the clinical case details. Taher M. Miyajiwala reviewed the manuscript critically and ensured the accuracy of the cited references. Dr. Naitikkumar Trivedi provided guidance on publication-related aspects and contributed to the review and refinement of the manuscript, including verification of references.

REFERENCES

1. National Guideline for Clinical Management of Dengue Syndrome. 4th ed; 2018. Available from: <https://medbox.org/document/national-guidelines-for-clinical-management-of-dengue-syndrome-4rd-edition> [Last accessed on 2026 Mar 12].
2. Guidelines for Clinical Management of Dengue Fever, Dengue Haemorrhagic Fever and Dengue Shock Syndrome. Government of India, Directorate General of Health Services, Ministry of Health and Family Welfare; 2008. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/pmc3317599> [Last accessed on 2026 Jun 28].
3. Prevention and Control of Dengue and Dengue Haemorrhagic Fever: Comprehensive Guidelines. WHO Regional Office for South-East Asia, New Delhi. Available from: <https://iris.who.int/handle/10665/204894> [Last accessed on 2026 May 06].
4. Comprehensive Guidelines for Prevention and Control of Dengue and Dengue Haemorrhagic Fever. Revised and Expanded Edition. WHO Regional Office for South-East Asia. Available from: <https://apps.who.int/iris/handle/10665/204894> [Last accessed on 2026 Apr 12].
5. Ministry of Health, Sri Lanka. National Guidelines: Guidelines on Management of Dengue Fever and Dengue Haemorrhagic Fever in Adults. Revised and Expanded Edition; 2012. Available from: <https://www.studocu.com/row/document/sabaragamuwa-university-of-sri-lanka/community-medicine/guidelines-on-management-of-dengue-fever-dhf-in-adults/145937073> [Last accessed on 2026 Apr 12].
6. Dengue Fever (DF)/Dengue Haemorrhagic Fever (DHF)/Dengue Shock Syndrome (DSS). National Health Mission. Available from: <https://www.msmanuals.com/professional/infectious-diseases/arboviruses-arenaviridae-and-filoviridae/dengue-hemorrhagic-fever-dengue-shock-syndrome> [Last accessed on 2026 Mar 26].
7. Clinical Practice Guidelines: Management of Dengue Infection in Adults. 3rd ed. Academy of Medicine Malaysia; 2015. Available from: <https://www.moh.gov.my/images/04-penerbitan/penerbitan-klinikal/panduan-amalan-klinikal/cpg%20dengue%20infection%20pdf%20final.pdf> [Last accessed on 2026 Mar 22].
8. Global Strategy for Dengue Prevention and Control 2012–2020. WHO; 2012. Available from: <https://www.who.int/publications/i/item/9789241504034> [Last accessed on 2026 May 27].
9. Raza MA, Khan MA, Ejaz K, Haider MA, Rasheed F. A case of dengue fever with hemorrhagic manifestations. *Cureus* 2020;12:e8581.

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