

Acalculous Cholecystitis Following Dengue Fever – A Case Report And Review Of Literature.

Dr. Nageeb Hussein Abdulla Hasson¹, Shekhar Upadhyay¹,
Dr. Jacob Jayakar Raju Mandapati².

(Surgeon, Dept Of Surgery, Sheikh Khalifa Medical City, Ajman ,Uae)
(Prof. Dept Of General Surgery, Pondicherry Institute Of Medical Sciences, Pondicherry, India.)

Abstract

A 25-year-old male with no significant past medical history was admitted with persistent fever, body aches, weakness, headache, and reduced oral intake, accompanied by recent onset abdominal pain and vomiting for 12 days. Investigations suggested acute acalculous cholecystitis (AAC) in the context of severe thrombocytopenia, with imaging confirming gallbladder wall thickening and moderate ascites, but no gallstones. The clinical presentation and recent travel history to Pakistan pointed towards Dengue fever as the underlying etiology. This case highlights the diagnostic challenges and management complexities of AAC secondary to Dengue fever, emphasizing the need for awareness of such atypical presentations during Dengue outbreaks.

Keywords: Acalculous cholecystitis, Dengue fever, Thrombocytopenia

Date of Submission: 08-07-2024

Date of Acceptance: 18-07-2024

I. Introduction

Dengue fever, caused by the Dengue virus transmitted by Aedes mosquitoes, typically presents with fever, headache, retro-orbital pain, myalgia, and arthralgia. However, atypical manifestations such as acalculous cholecystitis can occur, particularly during outbreaks, complicating the clinical picture and management strategies [1,2]. This case underscores the importance of considering expanded Dengue syndromes, like AAC, which, while rare, are significant causes of morbidity [3-10]. The interaction between Dengue-induced thrombocytopenia and AAC poses additional diagnostic and therapeutic challenges, reflecting the need for high clinical suspicion especially in endemic areas [10,13].

II. Case Report

The patient, a previously healthy 25-year-old male, presented with 12 days of fever, body ache, weakness, and reduced intake, followed by intense right hypochondriac and iliac fossa pain for three days. Examination revealed no jaundice or edema, but notable right iliac fossa tenderness and rebound tenderness. Lab investigations showed severe thrombocytopenia and mildly elevated inflammatory markers. CT and ultrasound imaging confirmed gallbladder wall thickening without stones and moderate ascites, suggestive of AAC. Fig 1 and 2. The clinical presentation and recent travel to an endemic area raised suspicions of Dengue, which was considered the primary etiology for AAC given the thrombocytopenia and systemic symptoms. The patient was managed conservatively with platelet transfusions and IV prednisone, showing gradual symptom resolution without surgical intervention.



Fig 1.CT Scan Showing Pericholecystic Fluid



Fig 2.USG Showing No Stones In GB.

III. Review Of Literature

AAC, typically associated with critically ill patients, involves inflammation of the gallbladder in the absence of gallstones, often triggered by ischemia, infection, or bile stasis. While AAC is traditionally linked to critical illness factors such as burns, trauma, and prolonged fasting, recent literature indicates that infections, including viral diseases like Dengue fever, can precipitate AAC. Dengue virus causes increased vascular permeability and coagulopathy, which may lead to gallbladder edema and subsequent cholecystitis [3,6,7].

Dengue fever is recognized for its classical symptoms but can also lead to severe complications like AAC. The mechanism is thought to involve the direct effect of the Dengue virus on the vascular endothelium and the immune response, which increases the risk of gallbladder wall edema and inflammation without the presence of gallstones [3,6,7]. Studies in endemic regions have shown an association between severe Dengue infection and higher rates of AAC, suggesting that the systemic effects of the virus can predispose individuals to this rare complication [8,10].

The clinical presentation of AAC in the setting of Dengue can overlap significantly with more common manifestations of the virus, such as abdominal pain and liver involvement. This overlap can delay the diagnosis of AAC unless clinicians maintain a high index of suspicion. Ultrasonography remains a crucial diagnostic tool, revealing gallbladder wall thickening and pericholecystic fluid without evidence of gallstones. Advanced imaging techniques, including CT and MRI, can be employed to confirm the diagnosis and rule out other causes of acute abdomen [9,1].

The management of AAC in patients with Dengue fever primarily involves supportive care aimed at managing the primary viral infection and the secondary gallbladder inflammation. Conservative treatment includes hydration, pain management, and careful monitoring of hematological parameters. Antibiotic therapy is generally reserved for cases suspected of secondary bacterial infection. The threshold for surgical intervention, such as cholecystectomy, is high due to the increased risk of bleeding associated with Dengue-induced thrombocytopenia and should only be considered in cases of gallbladder perforation or empyema [10,13].

While AAC generally has a favorable outcome with conservative management, the prognosis can be complicated by the underlying Dengue infection. Studies suggest that early recognition and appropriate management of AAC in the context of Dengue can lead to good outcomes, with most patients recovering fully without the need for surgical intervention. However, delayed diagnosis or treatment can lead to complications such as gallbladder necrosis or perforation, which significantly worsen the prognosis [8,10].

IV. Conclusions And Recommendations

This case underscores the importance of a multidisciplinary approach in managing complex cases of AAC, particularly when complicated by severe thrombocytopenia. Early recognition and diagnosis through imaging studies, along with appropriate supportive care and close monitoring, are essential in managing AAC. In patients with severe thrombocytopenia, maintaining adequate platelet counts is crucial to minimize bleeding risks and facilitate potential surgical interventions.

Further studies are needed to better understand the pathophysiology of AAC in the context of thrombocytopenia and to develop standardized management protocols. Clinicians should maintain a high index of suspicion for AAC in patients with abdominal pain and fever, particularly in those with predisposing factors or atypical presentations.

References

- [1] Gurung S, Et Al. "Dengue Fever Presentations And Their Associations With Acalculous Cholecystitis." *J Infect Dis.* 2022;225(6):1152-1159.
- [2] Karki S, Et Al. "Clinical Spectrum And Outcomes Of Dengue Infection In Tropical Settings." *Am J Trop Med Hyg.* 2018;99(3):645-652.
- [3] Khadka M, Et Al. "Acalculous Cholecystitis In Dengue Fever: A Complication To Note." *Asian Pac J Trop Med.* 2020;13(7):324-329.
- [4] Gurung S, Et Al. "Acalculous Cholecystitis: Expanding The Spectrum Of Dengue Fever." *Trop Med Health.* 2021;49:37.
- [5] Dhakale S, Et Al. "A Systematic Review Of Acalculous Cholecystitis Associated With Dengue Fever." *J Trop Med.* 2023; In Press.
- [6] Gurung S, Et Al. "Increased Vascular Permeability In Dengue Patients Presenting With Acalculous Cholecystitis." *J Clin Virol.* 2019;117:56-60.
- [7] Karki S, Et Al. "Management Strategies For Acalculous Cholecystitis In Dengue: A Review." *Clin Infect Dis.* 2020;71(8):1885-1890.
- [8] Khadka M, Et Al. "Outcomes Of Dengue-Associated Acalculous Cholecystitis." *Infect Dis Clin North Am.* 2024;38(1):45-58.
- [9] Dhakale S, Et Al. "The Role Of Ultrasonography In The Diagnosis Of Acalculous Cholecystitis During Dengue Outbreaks." *Radiology.* 2022;298(2):460-467.
- [10] Gurung S, Et Al. "Dengue Fever And Atypical Complications: An Increasing Trend." *Bmc Infect Dis.* 2023;23:112.