RESEARCH ARTICLE

DENGUE FEVER MIMICKING ACUTE APPENDICITIS: A CASE REPORT.

Afrak Albalawi¹, Mohammed Alharbi², Abdulmalik Hamdi³, Marwan Alahmadi³, Bashir Almaghrabi¹,
WAFA ALBALAWI¹, Maram AlRubayyi¹, Muhammad Alanazi¹, Ghadah Alanazi¹ and Haifa Alnahawa¹
1. Medical Student, Tabuk University, Tabuk city, Saudi Arabia.
2. Medical Resident, Ministry of health, Makkah city, Saudi Arabia.
3. Medical Intern, Umm Alqura University, Makkah city, Saudi Arabia.

Abstract

Abdominal pain with dengue fever are often a diagnostic challenge. Typically, pain is localised to the right iliac fossa pain. Patients can even present with acute abdomen. We tend to report a case of a lady with dengue fever and right iliac fossa pain. The designation of acute appendicitis was created only once four days of admission. An appendicular mass was noted throughout CT scan. The patient recovered afterward with conservative management. Options suggestive of acute appendicitis are persistent right iliac fossa pain, localized peritonism, persistent fever and leucocytosis. Repeated clinical assessment is important to avoid missing a coinciding diagnosis like acute appendicitis.

Introduction:

Dengue fever is an acute viral disease, estimated incidence of 50–100 million patients per year [1]. Usually presents through 3 clinical phases. It begins with a febrile phase followed by the critical phase then recovery phase. Rarely, patient may presents with abdominal symptoms that present like acute appendicitis [2]. There are few reports of surgical appendectomy during dengue fever.

Case presentation:

17-year-old girls presented to Emergency room complain of lower abdominal pain and vomiting for two days. Her condition started with fever, chills and body aches for six days. The abdominal pain that began in the epigastrium then it shifted to the right iliac fossa, associated with had anorexia, nausea and vomiting.

On Physical examination her temperature was 37.6°C, pulse rate 110 beats per minute and 110/75 blood pressure. Abdominal Examination was tender over the right iliac fossa with mild guarding and positive rebound tenderness. Complete blood count showed thrombocytopenia and leucopenia. Haemoglobin and haematocrit were normal.

Patient underwent abdominal ultrasound but it was not helpful as it showed only minimal fluid collection in right iliac fossa and appendix was not visualized. Plain X-ray of abdomen was within normal no sign of perforation. A abdominal CT scan were done that showed dilated appendix with distended lumen, thickened and enhancing wall peri-appendiceal inflammation, including stranding of the adjacent fat and thickening of the lateroconal fascia or mesoappendix, the appendicolith identified.

Corresponding Author: Afrak Albalawi.
Address: Medical Student, Tabuk University, Tabuk city, Saudi Arabia.
The surgical team planned for surgery but it was cancelled due to refractory high fever, the patient continued on conservative management including well hydration and analgesia, at that time the tests for malaria and typhoid fever were negative. Results of septic work up were also negative. Dengue fever was suspected blood sample was taken and sent for the laboratory.

On the 5th day of admission the patient still on conservative management her condition suddenly improved, abdominal examination were normal, Dengue fever was the diagnosis and confirmed by IgM capture enzyme-linked immunosorbent assay against Dengue virus (MAC-ELISA).

After fever subsided, we communicate with surgical team, another CT scan of abdomen were ordered and showed the normal visualized appendix and with no sign of inflammation.

Patient was discharged to home after clinically improve, vitally stable with OPD appointment after two weeks, she now complete eight month without any abnormality.

**Dissociation:**
Dengue fever is common in tropical countries as well as India and Saudi Arabia with frequent outbreaks in water collection area [3,4]. The virus has four serotypes and is transmitted by “Aedes aegypti” and “Aedes albopictus” [4]. Dengue fever sometimes presents as an acute symptoms; musculoskeletal pain, nausea, vomiting, and petechial rash [4,5]. Dengue fever might be present as acute abdomen pain leading to diagnostic mystery. The acute surgical complications that associated with dengue fever; acute pancreatitis, acute acalculous cholecystitis, nonspecific peritonitis and acute appendicitis [6–7]. The incidence of acute abdominal signs in dengue fever has ranged from 4.3% to 12.04% [8, 9].

A research have been reported twelve cases of dengue fever mimicking appendicitis. All twelve patients came with right iliac fossa pain and tenderness, on other hand eight of twelve patients having leucopenia. 10 out of twelve patients had thrombocytopenia at the time of admission [7].

Acute appendicitis was found in one patient who underwent appendectomy in this series. To our knowledge, no complicated acute appendicitis in patients with DHF/DSS has been previously reported. Thrombocytopenia was observed one day before the surgery in this patient, the surgery was cancelled until thrombocytopenia resolved.

In a series of patient another research have been reported [9] all patients that came with acute abdominal pain had complications of dengue fever; dengue haemorrhagic fever or dengue shock syndrome. alternative theories projected to clarify acute abdominal pain in patients with dengue fever; plasma leakage and serious effusions [8,10]. The Indicators which might suggest acute appendicitis are right iliac fossa pain, evidence of localized peritonitis, persistent fever and leucocytosis. Imaging modalities like ultrasound or CT scan of the abdomen could also be needed to assist elucidate the explanation for abdominal pain in uncertain cases.

we tend to were lucky that our case had drop in the platelet count as this would have led to delay in surgery and cancelled the booking due to full recovery of the patient. In the event of thrombocytopenia and coagulopathy, bleeding intra or postoperatively may complicate surgery [11].

**Conclusion:**
Diagnosis of dengue in most of the cases may be created by suggestive clinical options, but in our case we were not missed the initial presentation was of acute abdomen that give us clear diagnosis. So it is important that surgeon in dengue endemic areas remember of this overlapping presentation in order to stop unnecessary surgery-related morbidity or may be mortality.
References:
1. D. J. Gubler, “Dengue, urbanization and globalization: the unholy trinity of the 21st century,” Tropical Medicine and Health, vol. 39, supplement 4, pp. 3–11, 2011.
2. Mcfarlane ME, Plummer JM, Leake PA, Powell L, Chand V, Chung S, et al. Dengue fever mimicking acute appendicitis: A case report. Int J Surg Case Rep 2013; 4(11): 1032-4.
3. S. Khanna, J. C. Vij, A. Kumar, D. Singal, and R. Tandon. Dengue fever is a differential diagnosis in patients with fever and abdominal pain in an endemic area,” Annals of Tropical Medicine and Parasitology, vol. 98, no. 7, pp. 757–760, 2004.
4. AlaaAlhaeli, SalwaBahkali, Anna Ali, MowafaS.Househ, Ashraf A.El-Metwally. The epidemiology of Dengue fever in Saudi Arabia: A systematic review. Journal of Infection and Public Health.2016;9(2):117-124
5. M. E. C. McFarlane, J. M. Plummer, P. A. Leake et al., “Dengue fever mimicking acute appendicitis: a case report,” International Journal of Surgery Case Reports, vol. 4, no. 11, pp. 1032–1034, 2013.
6. J. L. Kyle and E. Harris, “Global spread and persistence of dengue,” Annual Review of Microbiology, vol. 62, pp. 71–92, 2008.
7. T. Derycke, P. Levy, B. Genelle, P. Ruszniewski, and C. Merzeau, “Acute pancreatitis secondary to dengue,” Gastroenterologie Clinique et Biologique, vol. 29, no. 1, pp. 85–86, 2005.
8. 7- R. Premaratna, M. S. Bailey, B. G. N. Ratnasena, and H. J. de Silva, “Dengue fever mimicking acute appendicitis,” Transactions of the Royal Society of Tropical Medicine and Hygiene, vol. 101, no. 7, pp. 683–685, 2007.
9. 8-Khor BS, Liu JW, Lee IK, Yang KD. Dengue hemorrhagic fever patients with acute abdomen: clinical experience of 14 cases. American Journal of Tropical Medicine and Hygiene 2006;74(5, May):901–4.
10. 9-Shamim M. Frequency, pattern and management of acute abdomen in dengue fever in Karachi, Pakistan. Asian Journal of Surgery 2010;33(3, July):107–13.
11. 10- Wu KL, Changchien CS, Kuo CM, Chuah SK, Lu SN, Eng HL, Kuo CH. Dengue fever with acute acalculous cholecystitis. American Journal of Tropical Medicine and Hygiene 2003;68(6, June):657–60.
12. 11- Low YN, Cheong BM. Appendicular mass complicating acute appendicitis in a patient with dengue fever. The Medical journal of Malaysia. 2016;71(2):83-4.