ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 3| March 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188

CHIKUNGUNYA PRESENTING AS ACUTE ABDOMEN – A DIAGNOSTIC CONUNDRUM

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ABSTRACT

Acute abdomen is one of the day-to-day occurrences in surgical casualty with cases ranging from mild acute pancreatitis to life-taking malefic perforation peritonitis. With impending progressive mortality associated with most of the cases, it demands urgent attention and apt management. The presentation may vary from a stable patient to a patient in hemodynamic instability requiring ICU and ventilator support. In addition to the usual causes of the acute abdomen which include trauma, inflammation, malignancy, and obstruction, medical illness also forms a significant bulk of cases presenting as masquerading acute abdomen. A true surgical abdomen usually warrants an exploratory laparotomy and thus clinicians have to perceive a high risk of suspicion to diagnose with a medical ailment as was our case.

KEYWORDS: - ***Acute abdomen, chickungunya, hepatosplenomegaly, Aedes aegypti***

INTRODUCTION

The acute abdomen is the most common entity that comes across a surgical casualty. It may be caused by inflammatory disorders, vascular occlusion, or obstruction. The causes diversify from perforated appendicitis, acute severe pancreatitis, ruptured sigmoid diverticulum, torsion testis, lacerated spleen, and many more [1]. Clinical presentation is usually multidimensional with signs of involvement in the form of guarding, rigidity, and a significant rebound. Medical causes for the same have been in the loop for a long time and usually are rare to present. Chikungunya is one of the mosquitoes borne viral disease that has been recognized globally as an emerging pathogen since Dec 2013. With an active outbreak in INDIA, a previously done study from all the affected populations didn't reveal even a single patient presenting with the acute abdomen [2]. Hereby we report the first casualty from INDIA with abdominal complaints as the primary ailment mimicking an acute abdomen and causing a surgical conundrum in terms of management.

CASE PRESENTATION

A 25-year-old lady with no comorbidities presented as a case of the acute abdomen to our casualty with abdominal pain, vomiting, anorexia, and fever for 4 days. She had sudden onset of lower abdomen pain, pricking type, non-radiating, non-migrating and not responding to analgesia. She had vomiting 4-5 episodes/day, within half an hour of consuming food, which was non-bilious, non-blood stained, and contained food particles. She also had an on-off high-grade fever, associated with chills-rigor and headache. She also had 2-3 episodes of loose stools with complete loss of appetite. Initially, she went to local GH where they suspected her of having acute appendicitis. On examination, she was febrile, lethargic, and dehydrated. She was pale and had tachycardia of 124 beats per minute with a borderline blood pressure of 100/60 mm of Hg. On per abdomen examination, there was severe tenderness in the right iliac fossa, with voluntary guarding, rigidity, and severe rebound. Other systemic examination was normal. Per rectal examination was unremarkable.

Patient had hemoglobin of 13.5 g/dl and leukocytosis of 19320 with no neutrophilic shift. Thrombocytopenia with a count of 94000 was present. The liver and renal function tests were abnormal. The bilirubin of the patient was increased at 3.5 and also had mild renal dysfunction with a creatinine of 1.4. Chest X-Ray was suggestive of mild bilateral costo-phrenic angle blunting with no other abnormalities. Usg-Abdomen was suggestive of mild fatty hepatomegaly with no IHBRD. There was evidence of cholelithiasis with no evidence of acute cholecystitis. In addition to that, there was focal probe tenderness with mild mesenteric inflammation and

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an appendix of 8 mm caliber. There was no peri-appendiceal fluid or mass formation.

The patient initially was being managed as a case of acute abdomen with acute appendicitis as the foregoing diagnosis. The presence of typical lower abdominal pain with rebound and associated vomiting and anorexia matched up to the parameters on the Alvarado score which deemed the diagnosis probable. Initial USG had atypical findings in the form of hepatosplenomegaly but the malefic presentation swayed the diagnosis towards a surgical cause. The patient was started on IV antibiotics with ceftriaxone and metronidazole. Surgical management was planned and the patient was posted for open appendectomy. Due to the non-resolution of symptoms with analgesics and antibiotics, the patient's diagnosis was revisited and was investigated for other infective causes of the acute abdomen as ultrasound abdomen ruled most of the forms of surgical scenarios.

Sequential serial investigations showed an aggravated leukocytosis with an absence of neutrophilia. Serial blood cultures were negative. Peripheral smear was normal. Finally, on the febrile illness panel, the patient was found to be positive for chikungunya IGM ELISA which clinched the diagnosis. The patient was managed conservatively with pain killers and IV hydration. The patient symptomatically improved and was hence discharged from our side for further follow-up with the medical team.

DISCUSSION

We report an atypical case of chikungunya presenting as acute abdomen to the surgical floor with a patient who was a locality of Pondicherry. Since the first description in medical literature in a patient of Tanzania in 1953, it was found to be autochthonous to West Africa. Nevertheless, by the advent of 2014, 88 countries reported cases of chikungunya which made it a pan-continental infection. The first reported case occurring in the temperate regions originated in Italy with the suspected index case incurring from India [3]. The Aedes aegypti has been recognized as the primary vector within the tropics and the temperate zones whereas the Aedes albopictus – a genetically mutated vector for transmission in the west [4].

In the majority of the cases, a debilitating symmetrical polyarthralgia is the usual primary complaint associated with fever [5]. The usually affected joints would be the ankles, knee joints, metacarpophalangeal joints, metatarsal joints, shoulders, elbows, and wrist joints with nearly a third of these patients presenting with effusive arthritis [5]. Following a period of 1-3 days, there is a development of a diffuse maculopapular rash which usually spares the face. In eventuality, there can be multi-system involvement including neurological features (including encephalitis, seizures, and Guillain-Barre syndrome), cardiovascular features (including myocarditis, heart failure, and ischemic heart disease), renal features (including acute kidney injury), ocular features (including optic neuritis), as well as atypical skin eruptions, ulcerations, and bullae[6].

In our case, the clinical course was stormed with a face value symptomatology of significant abdominal pain, anorexia, constipation, and thrombocytopenia which are atypical for chikungunya. In retrospect, there has not been a single case reported in the Indian subcontinent with this eventuality of symptoms which makes it an extremely rare first reported case for this infection. The absence of the prima facie evidence of the infection in the form of rheumatic and dermatological involvement made the case a primary atypical case.

The differential of such a combination of symptoms mostly lies in the surgical domain in the form of acute appendicitis, mesenteric lymphadenitis, acute cholecystitis, acute pancreatitis, etc. which can all be excluded with an ultrasound abdomen. In the medical Eminem, the possible causes pan around multiple viruses including parvovirus B19, hepatitis B and C, rubella, dengue, and other alpha viruses, including Mayaro, O'nyong-nyong, Ross River, Barmah Forest, Sindbis, and Semliki Forest virus. In rare occurrences, non-infected seronegative arthropathies might cause a diagnostic conundrum but the presence of fever at the outset of this case ruled them out.

Clinical diagnosis is usually challenging in most cases as it mirrors a lot of other infective ailments. For the diagnosis of chikungunya, confirmation is required through detection of the IgM or IgG antibodies via ELISA. The IgM is usually detected in case of acute infection within a span of 2-6 days whereas the counterpart seropositivity with IgG can remain in the convalescent period and years' post-recovery [7]. An eventual gold standard investigation is RT-PCR which offers the highest sensitivity from serum, plasma, or cerebrospinal fluid- usually done in seronegative cases with high index suspicion [8]. In our case, the overall duration of symptomatology was well within a week which conferred a positive seropositive report with IgM ELISA for chikungunya and helped in the confirmation of this atypical acute abdomen case.

Most of the treatment is centered on symptomatic conservative management which includes intra venous fluid resuscitation, analgesics, antiemetic, and prophylactic antibiotics in the form of doxycycline for covering other suspected infective etiologies. The use of steroids has been advocated in cases of debilitating arthralgia although there are no proper guidelines established for it [4]. There have been studies linking the usage of chloroquine in mitigating the symptoms of the ailment as per in vitro studies but there is limited research on it [9]. In addition to this, various researches in the field of the use of viable monoclonal antibodies, antiviral therapies, and potential vaccinations are in progress [10].

In our case, as the patient was initially treated in the lines of acute appendicitis, intraveous antibiotics were started and were posted for emergency laparotomy. As a part of symptomatic management, the patient received fluid resuscitation and pain management. Post the ultra-sonogram, the surgical plan was deferred and an acute febrile illness panel was sent which gave the seropositive report. Her acute kidney injury improved over time and she didn't go into any of the potential systemic complications. She symptomatically improved and was hence discharged with a medical follow-up.

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CONCLUSION

Acute abdomen is a mundane spectral case in a surgical casualty but it can be caused by rare etiologies such as medical infections. An immediate ultra-sonogram rules out the surgical causes which sways the diagnosis towards a medical causality. Although chikungunya has been an established ailment in the spectrum of tropical parasitology, its presentation in the form of an acute abdomen is extremely rare and has never been documented in the Indian subcontinent. Hereby clinicians need to keep a high risk of suspicion to diagnose such a medical conundrum and provide prompt treatment leading to alleviation of ominous fatality.

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