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CASE REPORT

Acute abdomen as atypical manifestation of chikungunya

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Abdomen,
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Abstract

Introduction: Chikungunya fever is an arbovirus caused by the chikungunya virus (CHIKV). It is one of the main differential diagnoses of dengue, due to characteristic fever and arthralgia. **Case Report:** An 8-year-old Black male patient had a history of abdominal pain associated with daily fever, odynophagia and asthenia. It evolved over the days with myalgia and polyarthralgia. He was then admitted for investigation. Maintained clinical worsening with persistent fever and increased abdominal pain. After 8 days of hospitalization showed signs of intestinal perforation and septic shock. After surgery and stabilization, he underwent serology and confirmed CHIKV infection by Elisa. **Discussion:** Most individuals infected with the chikungunya virus develop symptomatic infection (70%). High values compared to other arboviruses. The signs and symptoms are clinically similar to those of dengue fever - acute onset fever, arthralgia and myalgia, headache, nausea, fatigue and rash. Some cases may develop atypically, characterized by the appearance of signs of severity or by presenting less frequent clinical manifestations, such as those in this case. The frequency of severe frames is 0.3%. **Conclusion:** Less common manifestations may occur, and pediatricians should be alert and consider CHIKV infection as a differential diagnosis.

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INTRODUCTION

Chikungunya fever is an arbovirus caused by the Chikungunya virus (CHIKV), of the Togaviridae family and the Alphavirus genus. The name Chikungunya derives from a word in Makonde, a language spoken by a group living in southeastern Tanzania and northern Mozambique. It means "those who bend over," describing the stooped appearance of people who suffer from the characteristic arthralgia. Transmission occurs mainly through the bite of female Aedes aegypti and Aedes albopictus mosquitoes infected with CHIKV. Cases of vertical transmission can occur almost exclusively during the intrapartum period in viremic pregnant women . Transfusional transmission may also occur, although rare[1].

As of late 2014, Chikungunya fever has spread to most of the Caribbean islands and to countries in Central, North and South America, including Brazil. Since the arrival of the virus in the Americas, the Pan American Health Organization (PAHO) has recorded 1.3 million suspected cases, with 29,700 confirmed cases and 184 deaths[2].

In Brazil, the first confirmed case was in September 2014, in the city of Oiapoque, located in Amapá. From then on, there was a rapid diffusion, which was propitiated by several factors. Among them, population susceptibility, since it is a new virus circulating in the national territory; the wide spread of the virus propagating vectors; and the large national territorial extension, making surveillance and health measures to control the disease difficult[3].

Chikungunya constitutes one of the main differential diagnoses of dengue. High fever and polyartalgia are particularly noteworthy . Atypical cases of the disease are rare[3,4].

The uniqueness of the clinical manifestations presented motivated the presentation of the following case.

CASE REPORT

An 8-year-old black male patient presented with a history of abdominal pain associated with daily fever, odynophagia and asthenia. As the days passed, he developed myalgia and polyarthralgia. He was then hospitalized for investigation, and the fever persisted and his clinical condition worsened. Entry laboratory tests showed normal leukocytes, relative neutrophilia, normal lymphocytes, anemia, thrombocytopenia and cholestatic hyperbilirubinemia (leucocytes 4690mm^3, neutrophils 73.8%, lymphocytes 16.9%, Hemoglobin: 7.9 and platelets 80,300). Broad-spectrum antibiotic therapy was prescribed, with ceftriaxone, oxacillin and metronidazole, due to a supposed bacterial infection. Computed tomography of the abdomen showed hepatomegaly, bilateral pleural effusion and free fluid in the abdominal cavity. After 5 days of hospitalization, he presented sudden worsening of abdominal pain, associated with constipation, vomiting, fever and signs of septic shock. Ultrasonography was performed, which showed intestinal loops en bloc and thick free fluid in the abdominal cavity. On physical examination, he was jaundiced, with a tense abdomen, in board shape, with abolished bowel sounds and diffusely painful palpation.

After 8 days of hospitalization, and without clinical improvement, with a diagnostic hypothesis of acute abdomen and sepsis with an abdominal focus, he underwent exploratory laparotomy. In the cavity, a perforation on the contra-mesenteric border of the distal ileum was observed and duly corrected, in addition to a large amount of enteric secretion.

After the procedure and clinical stabilization, the patient was kept under intensive care and progressed satisfactorily from the emergency surgical condition. However, despite this, the medical team's attention was drawn to the persistence of joint and muscle pain complaints. Some serologies were then requested, including dengue, chikungunya and zika, in addition to serologies for Toxoplasmosis, Rubella, Cytomegalovirus, Syphilis and Herpes simplex. The result was a positive IgM for Chikungunya (immunochromatography and Elisa).

DISCUSSION

Most individuals infected with chikungunya virus develop symptomatic infection (70%)[4]. High value compared to other arboviruses, whose dengue is the best known in our country. Their signs and symptoms are clinically similar – acute onset fever, arthralgia, myalgia, headache, nausea, fatigue and exanthema. The main clinical manifestation that differentiates them is intense arthralgia (predominant in Chikungunya), which can often be accompanied by edema. This is associated with a high rate of morbidity, resulting in reduced productivity and quality of life[4].

After the initial phase, the disease can evolve into two subsequent stages: subacute phase (15 days to 3 months) and chronic phase (more than 3 months)[4].

Regarding pathogenesis, it is believed that there may be a deregulation of the control mechanisms of the inflammatory process, caused by persistent infection in tissue macrophages, or by the presence of viral RNA within these cells. The synovial histopathological changes seen after CHIKV infection are similar to those found in patients with rheumatoid arthritis (RA) or other chronic inflammatory arthropathies and include synovial hyperplasia, vascular proliferation, and perivascular macrophage infiltration. Some laboratory predictors of chronicity are considered, such as high levels of C-reactive protein and serology for CHIKV IgG, in addition to persistent positive IgM serology beyond the acute phase[5].

Some cases may evolve in an atypical way, either due to the appearance of less frequent clinical manifestations or due to signs of severity. The frequency of severe cases is 0.3%. There are reports of the occurrence of sepsis and septic shock in patients with chikungunya fever in intensive care, where no other possible etiologic agent was identified to justify the condition[5].

There are different presentations of atypical cases described. These mainly affect the nervous system,

musculoskeletal system, heart, skin and integuments, kidney and liver. Which can lead to complications, including death. These clinical forms occur mainly when there are preexisting comorbidities, and in extremes of age (elderly and neonates). It is unclear whether the atypical manifestations are due to the host response pattern or are due to mutant forms of CHIKV[6,7].

In the researched literature, no cases similar to the one reported were found. The clinical picture presented was very unique due to the manifestations and severity of the complications, requiring a surgical approach and intensive care.

CONCLUSION

Although the main clinical manifestations of arboviruses are well known, pediatricians should always be alert to identify possible atypical cases. They must be investigated, notified and described for the knowledge of the medical community.

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