Case Report

Seizure along with gastroenteritis: An atypical manifestation of appendicitis- A case report

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ABSTRACT

Introduction and importance: Appendicitis is a common cause of acute abdomen in children. Due to its distinct clinical manifestations, often, its diagnosis is not very challenging. At younger age cases with atypical manifestations of appendicitis have been reported in the literature. In this study, we report seizure as another manifestation of appendicitis.

Case presentation: A young man presented to our clinic with diarrhea, abdominal pain, fever and history of seizure in past few days. After para-clinical examinations, he was primarily diagnosed as case of viral encephalitis and referred to our center. As his condition worsened, further work-up were done and he was finally diagnosed as perforated appendicitis.

Conclusion: Since perforated appendicitis could present with gastroenteritis accompanied by seizure, we believe in patients without a neurological history who present with seizures and loss of consciousness, abdominal problems must be considered.

1. Background

Appendicitis is one of the most common causes of acute abdominal pain and the most common condition requiring emergent surgical intervention in children [1]. Appendicitis commonly has its distinct clinical manifestations but may cause atypical symptoms at a younger age. Seizures are also a relatively common condition in children that can be caused by fever or other illnesses. Acute appendicitis has rarely been presented as generalized seizures, and very few cases have been reported so far [2]. Herein, an 18-year-old patient with generalized seizures and symptoms of gastroenteritis and initial diagnosis of viral encephalitis, who later was diagnosed with acute perforated appendicitis. The purpose of this case is to emphasize that at a young age with recent seizures and gastrointestinal symptoms or even mild abdominal findings, an abdominal CT scan or MRI of the abdomen is indicated to rule out acute appendicitis associated with neurological manifestations. This case report has been reported in line with the SCARE Criteria [3].

2. Case presentation

An 18-year-old man suffering from severe watery diarrhea, fever, and abdominal pain for four days visited a clinic other than ours. In the emergency department, he developed weakness and drowsiness and experienced a generalized tonic-clonic seizure. Evidence of diffuse cerebral edema was reported on CT imaging, and mesenteric fat haziness, brief inter-loop fluid, and reactive lymphadenopathy on the right side of the abdomen were prominent on the sonographic investigation. The patient was referred to our center with an initial diagnosis of viral encephalitis. The patient’s past family, drug, and surgical history was negative and he previously was a healthy young man. Prominent findings on examination were Glasgow Coma Scale of 13, low blood pressure, and mild fever. The patient had several episodes of massive watery diarrhea in the emergency department.

In the initial laboratory studies, he had a WBC of 8000 with 91% neutrophils, thrombocytopenia, hypokalemia, and metabolic acidosis. As the patient’s condition worsened, he was resuscitated and after stabilization of the initial vital signs, abdominopelvic CT was requested. On CT, mild to moderate free fluid accumulation in the abdomen and pelvic,
and an increase in thickness of the intestinal wall, from the cecum and ascending colon to hepatic flexion, were observed. The patient was admitted with an initial diagnosis of infectious colitis and viral encephalitis. Based on the diagnosis he was treated with antibiotics. According to the colitis view presented on the CT images, colonoscopy was performed. On colonoscopy, the colon was normal and there was no evidence of colitis or mucosal edema. Later, on the admission day, the patient experienced abdominal pain localized to RLQ. The patient’s fever continued and he developed severe leukocytosis. Due to the controversy of CT scan findings and colonoscopy, ultrasound sonography was performed. Inflamed and blind loops with liquid and air accumulation were observed and the sum of evidence was in favor of perforated appendicitis. The patient underwent laparoscopic surgery by KN (assistant professor of aparoscopic surgery), and an inflamed appendix loop along with an adjacent abscess were seen. Abscess drainage and appendectomy were performed without any complications. The patient’s fever, diarrhea, and seizures did not recur even following the post-operative withdrawal of sedative therapy. After surgery, and the patient was discharged in good general condition. The patient was advised to return to the clinic if experienced pain, signs of obstruction, and surgical site infection. The patient was satisfied with the procedure and was in good condition in follow up 1 month after surgery.

3. Discussion

Acute appendicitis is a common disease that usually occurs in adults with typical symptoms such as RLQ pain, nausea, vomiting, and anorexia but in children, the symptoms may be atypical and make diagnosis challenging. Diagnosis is primarily based on a combination of clinical manifestations with laboratory and imaging findings [4]. Sometimes imaging findings can be misleading and appendicitis or even perforated appendicitis may not be detected, in which case the diagnosis is based on a physical examination and the surgeon’s clinical judgment. In our patient, atypical medical history and ambiguous clinical and para-clinical findings delayed the diagnosis of appendicitis and misled us to neurological and infectious diseases. In our patient, atypical medical history, ambiguous initial physical examination with severe diarrhea and seizures, along with abnormal ultrasound and CT scan findings delayed the diagnosis of appendicitis and misled us to neurological and infectious diseases. In addition, appendicitis manifestations in the form of seizures, diarrhea, and loss of consciousness has been only reported once [2]. Considering that tenderness of RLQ and leukocytosis appeared in the course of patient’s hospitalization and after resuscitation, we believe that resuscitation and antibiotic treatment improved the patient’s immune activity and caused the following leukocytosis and tenderness.

4. Conclusions

Considering the wide range of acute abdomen manifestations, it seems logical to evaluate abdominal problems in a patient without a neurological history who presents with seizures and loss of consciousness and any GI complaints or any suspicious points in the abdominal examination. In cases of unhelpful imaging, the surgeon’s judgment has priority over paraclinical findings and is advised to undergo serial examination and repeated imaging.

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Ethics approval

Not applicable.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Authors’ contributions

KN handled the patient and helped with the manuscript, SFM and LM wrote the manuscript and reviewed the literature, AMY edited the manuscript, HZM helped with handling the patient and supervised the project and edited the manuscript.

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Appendix A. Supplementary data

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