Mod Care J. 2019 January; 16(1):e90246. doi: 10.5812/modernc.90246.

Published online 2019 February 19. **Case Report**

Recurrent Abdominal Pain as a Manifestation of Temporal Lobe Epilepsy: A Case Report

Sayed Mohammad Musavi Mirzaee [1] and Ayob Akbari [1, *]

[1] Medical Toxicology and Drug Abuse Research Center, Birjand University of Medical Sciences, Birjand, Iran

[*] *Corresponding author*: Medical Toxicology and Drug Abuse Research Center, Birjand University of Medical Sciences, Birjand, Iran. Email: armin_623@ymail.com

Received 2018 November 10; **Revised** 2019 January 20; **Accepted** 2019 February 06.

Abstract

Introduction: As a rare cause of abdominal pain, abdominal epilepsy is relatively common among children and very rare among adults. Its manifestations are mainly gastrointestinal. This report aimed to introduce a young girl with flank pain, nausea, and fever who was diagnosed with abdominal epilepsy.

Case Presentation: The case was a nineteen-year-old girl who referred to hospital with flank pain, nausea, and fever. She was initially admitted to the infection disease service, diagnosed with pyelonephritis, and received antibiotics. Gastroenterology and neurology consultations were also requested due to respectively abdominal pain and long-term use of neuroleptics. Because of short-term abdominal pains which recurred every few days since twelve years ago and were occasionally associated with confusion, the diagnosis of abdominal epilepsy was considered in neurologic assessments. Further assessment through electroencephalography confirmed the diagnosis of abdominal epilepsy. Finally, treatment with anticonvulsants relieved abdominal pain and the patient was discharged.

Conclusions: Local convulsion may occasionally be manifested by periodical recurrent abdominal pain. Thus, patients with vague recurrent abdominal pain should be assessed for abdominal epilepsy.

Keywords: Abdominal Pain, Temporal Lobe Epilepsy, Electroencephalography

1. Introduction

There are several reasons for abdominal pain. A rare pathogenesis is temporal lobe epilepsy, which presents with abdominal aura and abdominal pain (1). Abdominal epilepsy is a temporal lobe epilepsy and commonly occurs in children. However, there are multiple reports of abdominal epilepsy in adolescents and even adults. The frequently envisaged picture for a patient with abdominal epilepsy involves chronic and recurrent gastrointestinal tract symptoms including nausea, vomiting, and short-term repetitive abdominal pain with one or more neurological complications. Therefore, these patients are likely to refer to a general practitioner, surgeon, gastroenterologist, or a psychiatrist, and are less frequently referred to a neurologist. Abdominal epilepsy with manifest symptoms of abdominal aura, including episodes of abdominal pain mainly associated with electroencephalogram disorders, usually respond to anticonvulsants (2). If physicians are not aware of abdominal epilepsy, this diagnosis is easily lost, resulting in inappropriate treatment (3).

We report a case with numerous referrals to gastroenterology and psychiatry services but ultimately treated with the diagnosis of abdominal epilepsy.

2. Case Presentation

A 19-year-old girl referred to a hospital for flank pain and urinary symptoms and was treated with ceftriaxone with a pyelonephritis diagnosis. The patient was subjected to neurological consultation given the chronic use of neuroleptic drugs, including nortriptyline 10 mg every 8 hours, olanzapine 5 mg twice a day, and biperidin 1/2 twice a day, and daily cabergoline. The patient's history showed recurrent chronic abdominal pain once or twice every two to three days from 12 years ago. The patient reported that, according to the above symptoms, she was treated with the diagnosis of irritable bowel syndrome with pantoprazole 20 mg on fasting, clinidium-c every 8 hours, and ranitidine 50 every 12 hours under gastric counseling. According to the patient's history, due to the above complaints (i.e., repetitive abdominal pain, recurring every 2 to 3 days several times a day taking a few minutes each time), she had

repeatedly referred to internal diseases specialists and general physicians during the course of about 12 years. Thus, several diagnostic tests were conducted, which include the followings according to the available evidence:

Endoscopy, abdominal and pelvic ultrasonography, amylase and lipase levels, CBC, ALT, and AST were reported as normal. WBC was high in urine analysis, and *E. coli* was observed in the UC test. In the neurological examinations performed at the time of the patient's pain, she had complete temporal and spatial orientation; cranial nerves, reflexes, cerebellar tests, and sensory tests were normal. The patient had been under psychiatric counseling for about 10 years, whereby she received nortriptyline, olanzapine, and biperidin. As the abdominal pain attacks were not controlled, pantoprazole, clindium C, and ranitidine were added to the treatment course, which proved ineffective on the recovery of abdominal pain. The patient was diagnosed with galactorrhea from about two years ago, whereby a prolactin level of 74 was recorded by the treating physician. A brain MRI was also performed with a normal report whereby pituitary microadenoma was diagnosed, and cabergoline was initiated on a daily basis.

In the recent visit, given the chronic use of neuroleptic drugs and continued abdominal pain, a neurological consultation was requested, whereby complete history was taken upon suspected abdominal epilepsy or migraine. The history showed that, along with abdominal pain, the patient suffered from occasional dizziness attacks and transient disconnection with the environment, but there were no signs suggesting migraine headaches. Upon suspected abdominal epilepsy in the neurological examination, electroencephalography was performed, which showed seizure waves predominantly spike and sharp waves reflecting the temporal lobe focus, suggesting seizure diagnosis for the patient. Carbamazepine was started twice daily. After 10 days of follow-up, a large part of the abdominal pain attacks was controlled. Olanzapine, nortriptyline, ranitidine, clidinium-c, and pantoprazole C were discontinued. After two months, prolactin was found at a normal level and cabergoline was discontinued.

3. Discussion

Abdominal epilepsy is a common syndrome in children and a very rare condition in adults, which is characterized by complaints of abdominal pain. Abdominal pain is due to temporal lobe epilepsy and seizure activity, central nervous system dysfunction, and abnormal electroencephalogram and responds to anticonvulsants. According to the literature, the most frequent symptoms of the digestive system include abdominal pain, nausea, and vomiting, and the most common neurological symptoms associated with it are lethargy and dizziness (4).

Symptoms of abdominal pain in children with abdominal epilepsy are very frequent. In a study of 150 children with chronic and recurrent abdominal pain, it was found that 74% had abdominal epilepsy. In adults, however, these symptoms are rare. The pathophysiology of this syndrome is unknown, but a number of mechanisms have been described for it, the most important of which is the disorder of the temporal lobe with amygdala involvement, resulting in gastrointestinal involvement. Patients with abdominal epilepsy have impaired EEG in which the temporal lobe involvement is evident, although some research has also reported the parietal lobe involvement (4).

Al-Hail et al. reported that temporal lobe involvement and temporal epilepsy can cause abdominal recurrent symptoms, the most common of these symptoms is abdominal pain (2). Mpondo et al. reported the case of a 38-year-old man presenting with vague and recurrent abdominal pain in the epigastrium, which had initiated gradually from about 2 years before and lasted up to 30 minutes in each episode. The patient had a history of lethargy. Finally, electroencephalography depicted temporal lobe involvement, and the patient was treated with a diagnosis of temporal epilepsy (4).

Sun et al. reported the case of a 60-year-old man who had a history of repetitive epigastric pain (1 to 3 times to 7 times a day) lasting for about one minute. The patient underwent a variety of gastrointestinal examinations, but no definitive diagnosis was made. In the course of neurologic services, electroencephalography showed temporal lobe involvement, and thus he was diagnosed with temporal cirrhosis and accordingly treated (5).

Murai et al. reported a 63-year-old woman suffering from a sudden diarrhea attack with abdominal pain from about 30 years ago. The attacks lasted about 30 seconds after the start. The patient had a history of decreased consciousness. After 30 years, the patient was diagnosed with medetompural lobe involvement in electroencephalography, and the patient was treated with the diagnosis of temporal lobe seizure (6).

Öztürk et al. described a 16-year-old girl who referred with recurrent abdominal pain, nausea, and episodes of memory loss. She was initially misdiagnosed with generalized anxiety and conversion disorders. After a neurological examination and electroencephalography, showing temporal lobe involvement, the patient was treated with the diagnosis of abdominal epilepsy (7).

In our patient, after multiple gastrointestinal, infectious, and psychiatric treatments and drug complications, a neurologic consultation using electroencephalography was performed to find the temporal lobe involvement.

Hence, the patient was treated with carbamazepine with a diagnosis of abdominal epilepsy and was discharged with complete relief of abdominal pain. Given the rare risk of abdominal epilepsy in adults, wrong diagnosis is not uncommon. The reverse is also true where some patients with gastrointestinal symptoms are mistakenly diagnosed to have abdominal epilepsy. In their study, Bayram et al. reported that patients with gastroesophageal reflux who have gastrointestinal tract symptoms may be treated for abdominal epilepsy. In these cases, obtaining a complete medical record can be helpful (8).

3.1. Conclusions

Since abdominal epilepsy syndrome is prone to a misdiagnosis, it is recommended to consider the above diagnosis in patients with chronic short-term abdominal pain that is recurrent and resistant to gastrointestinal tract treatments and for which no justifiable cause can be found in gastrointestinal examinations, especially in cases where attacks are associated with several degrees of confusion.

Footnotes

Authors' Contribution: Study concept: Sayed Mohammad Musavi Mirzaee, study design: Ayob Akbari.

Conflict of Interests: None declared.

Ethical Consideration: This study was conducted with the permission of the patient and under the supervision of Birjand University of Medical Sciences.

Funding/Support: We did not receive any grants for the publication of this study.

References

1. Topno N, Gopasetty MS, Kudva A, B L. Abdominal epilepsy and foreign body in the abdomen-dilemma in diagnosis of abdominal pain. *Yonsei Med J*. 2005;**46**(6):870–3. doi: 10.3349/ymj.2005.46.6.870. [PubMed: 16385668]. [PubMed Central: PMC2810606].
2. Al-Hail H, Wilkins SS, Mesroua B, Melikyan G, Azar N, Haddad N, et al. Temporal epilepsy causing recurrent abdominal pain in adults. *World J Neurosci*. 2018;**8**(2):270–6. doi: 10.4236/wjns.2018.82021.
3. Harshe DG, Harshe SD, Harshe GR, Harshe GG. Abdominal epilepsy in an adult: A diagnosis often missed. *J Clin Diagn Res*. 2016;**10**(10):VD01–2. doi: 10.7860/JCDR/2016/19873.8600. [PubMed: 27891434]. [PubMed Central: PMC5121772].
4. Mpondo BC, Mwasada G, Nyundo AA. Abdominal epilepsy, an uncommon cause of chronic and recurrent abdominal pain: A case report. *Clin Case Rep*. 2016;**4**(12):1117–9. doi: 10.1002/ccr3.711. [PubMed: 27980744]. [PubMed Central: PMC5134139].
5. Sun L, Li J, Song H, Lin W. Mesial temporal lobe epilepsy presenting with rising epigastric sensation as the only clinical symptom: A case report. *Neuroreport*. 2016;**27**(4):220–3. doi: 10.1097/WNR.0000000000000512. [PubMed: 26771171].
6. Murai T, Tohyama T, Kinoshita M. Recurrent diarrhea as a manifestation of temporal lobe epilepsy. *Epilepsy Behav Case Rep*. 2014;**2**:57–9. doi: 10.1016/j.ebcr.2014.03.007. [PubMed: 25667870]. [PubMed Central: PMC4308087].
7. Öztürk Y, Göl G, Savcı U, Cansız MA, Tufan AE. Abdominal epilepsy mimicking conversion disorder: A case report. *Psychiat Clin Psychopharmacol*. 2018:1–3.
8. Bayram AK, Canpolat M, Karacabey N, Gumus H, Kumandas S, Doganay S, et al. Misdiagnosis of gastroesophageal reflux disease as epileptic seizures in children. *Brain Dev*. 2016;**38**(3):274–9. doi: 10.1016/j.braindev.2015.09.009. [PubMed: 26443628].