

Abdominal Epilepsy: A Case Presentation

Duncan D Mugala^{1,2,4}, Ngosa Mumba¹, Mwiche Siame N.P³, Womba Kadochi⁴,
Muhumpu Kafwamfwa^{2,3}

¹Nchanga South hospital, Chingola, Ndola Central hospital, Zambia

²University Teaching hospital, Lusaka, Zambia

³The Ministry of health, Directorate of disease surveillance, control and research, Lusaka, Zambia

⁴Ndola Central hospital, Zambia

Abstract: Abdominal epilepsy is a rare condition consisting of gastrointestinal (GI) disturbances caused by epileptiform seizure activity. Here presented is one case of probable abdominal epilepsy. While a causal relationship between epilepsy and the GI symptoms could not be proven in this case, the GI symptoms could not be explained by other pathophysiological mechanisms our current levels of investigations could elicit. However, it was evident from this case presentation that the patient was seen to remarkably improve upon starting anticonvulsant treatment.

Keywords: Abdomen, Pain, Epilepsy.

1. BACKGROUND

Abdominal epilepsy is a known cause of recurrent abdominal pain. It often occurs in children but it has been seen in adults' as well. It's responsiveness to anticonvulsant therapy can aid in the diagnosis^{1,2}.

The incidence of abdominal epilepsy is unknown, hence it is considered to be a very rare condition. Most published medical literature dealing with abdominal epilepsy is in the form of individual case reports. A 2005 review article found a total of 36 cases described in the medical literature³.

The condition was first to described by Trousseau in 1868 in a boy with paroxysmal GI symptoms culminating in grand mal epileptic seizures. M.T. Moore gave the first account of abdominal epilepsy supported by EEG tracings in 1944⁴.

It has been described as a type of temporal lobe epilepsy. It does not always end in a grand mal epileptic seizure because not every type of epilepsy is generalized: A person could have seizure activity without impairment of his consciousness and generalized signs of epilepsy. There is an entity called "simple partial seizures" that results from epileptic activity in a small portion of the brain⁵.

People experiencing a simple partial seizure can behave normally during seizures. Simple partial seizures are autonomic (ANS) seizures and are of many types one of which is the type where patients have repeated and unexplained episodes of abdominal symptoms such as abdominal pain which can be severe, other symptoms reported are; abdominal discomfort, nausea vomiting, borborygmi, belching and flatulence. In addition there may be, flushing, sweating, goose bumps with hair standing on end, dilated pupils, increase in heart and respiration rates and frequent urination. A few people may get penile erection, sexual arousal even orgasm. Some patient are known to have an aura often a vague "epigastric rising" (sensation of symptoms rising to the throat from the abdomen). Whereas some experts question whether it exists at all, some believe that these cases are not as rare as they have been supposed to be and others think the diagnosis of abdominal epilepsy should be made when abdominal symptoms are the main manifestation of seizure activity. Peppercorn suggests that abdominal epilepsy should be considered in the differential diagnosis of unexplained paroxysmal abdominal pain^{6,7}.

2. CASE PRESENTATION

We present case histories of one female youth with pain in the abdomen that went on for years despite all kinds of treatments. The patient responded dramatically when antiepileptic drugs were given to her.

YC, a 16 year old female patient presented to the clinic with history of severe bouts of abdominal pain from the time she was nine years old. The pain had always been peri-umbilical and since 2007 the pain became more severe and occurred more frequently. The pain affected her school attendance and education. A typical attack would start with peri-umbilical pain that would radiate to the pelvis and the back. She would also get severe heart palpitations followed by a sensation of a “pulling” pain in the vagina. When the pain bout was over she would feel very weak and would not walk without being aided.

Although she occasionally got dysmenorrhea, her periods were generally normal and the pain was never associated with her periods. On examination she would be tender in the abdomen without rebound pain and no other significant findings were ever elicited.

Investigations done:

Over the years numerous routine investigations were done including blood counts, blood slides for malaria, Urine examinations, radiographs of the chest and abdomen and Ultra sound scans of the abdomen on several occasions. All the investigations did not yield any significant results. She was evaluated by the gynecologists on many occasions from which evaluations did not yield any significant findings. In the end an exploratory laparotomy was performed at which nothing abnormal was found except for pellet like stools from the caecum to the rectum.

Treatments given:

The patient received a large variety of analgesics, antacids, Spasmolytics and antibiotics. She was on many occasions diagnosed as PID, UTI, slow bowel transit time and irritable bowel syndrome and treated accordingly. The patient’s pain did not go away.

Upon being given a course of Carbamazepine 100mg once daily the patient’s condition improved dramatically, her admissions became far apart and the pain bouts became less severe and less frequent. After three months of treatment the patient became completely symptom free and was discharged from the clinic.

3. DISCUSSION

Abdominal epilepsy is so uncommon that some experts question whether it exists. Little is known about abdominal epilepsy. There have only been 36 cases reported in medical journals in the last forty years. On the other hand abdominal pain as an entity is common in the general population, it is also common in people with epilepsy as well. So it could be that the abdominal pain is only coincidental, not caused by seizures^{6,7}.

Peppercorn and Herzog reviewed gastrointestinal and central nervous system complaints in 10 adult patients with abdominal epilepsy. They found the following Abdominal symptoms; paroxysmal pain, nausea, bloating, and diarrhea. Nervous system manifestations included dizziness, headache, confusion, syncope and transient blindness. Each one of their patients had specific electroencephalographic abnormalities of a temporal lobe seizure disorder. Anti-convulsant therapy resulted in the sustained abolition of symptoms in each case⁸. Our patient responded in similar fashion. The limitation of this case presentation is that EEG tests were not carried out on this patient but the pattern of symptomatology and the response to treatment suggests a high probability that this was a case of abdominal epilepsy.

People with reported abdominal epilepsy have different patterns of symptoms. Further, symptoms may vary in the same person from one time to the next. For example, a person might have convulsive seizures and abdominal pain during one episode. Then they may only have abdominal pain during another seizure. Zinkin and Peppercorn found the most common gastrointestinal symptoms to be abdominal pain, nausea and vomiting, while the most common neurological symptoms include lethargy and confusion. This pattern of symptoms was seen in our patient although she did not have periods of confusion. Zinkin and Peppercorn also propose that after exclusion of more common etiologies for the presenting complaints, workup should proceed with an electroencephalogram which we were not able to do for our patient because of non availability of the equipment. Where the diagnosis is seriously considered, neurological consultation should be considered. Treatment typically begins with anticonvulsant medication, and resolution of symptoms with therapy helps to

confirm the diagnosis^{3,9}. The following is proposed criteria for the diagnosis of abdominal epilepsy: 'periodic abdominal symptoms that can't be explained after extensive medical testing, including blood tests, imaging scans, and endoscopy symptoms that suggest a central nervous system problem (for example, confusion or lethargy) an abnormal electroencephalogram (EEG) sustained absence of abdominal symptoms while taking an epilepsy medication.

Additional Medical and neurologic testing might include: computed tomography (CT) scans of the abdomen and brain magnetic resonance imaging (MRI) scan of the brain ultrasound of the abdomen endoscopy of the gastrointestinal tract.

Anti-convulsive therapy alone may sometimes not work and surgery may be resorted to for example, Eschle et al describes a patient who experienced recurrent episodes of abdominal pain as a prominent feature of his seizure disorder. During the presurgical evaluation, the episodes of abdominal pain correlated with amygdalar seizure discharges. In this patient treatment with carbamazepine could not prevent the painful sensations, but a selective amygdalohippocampectomy completely controlled the episodic pain and the seizures associated with loss or alteration of consciousness. Some of these patients may be misdiagnosed as psychogenic pain and worse still as malingerers¹⁰.

This condition is also known for its chronicity, Agrawal et al site a six year old patient in whom the symptoms started when he was four years old¹². In our patient the symptoms started when she was nine years old. Most of these patients tend to suffer for a long time before treatment is given to them.

It is our belief that this condition may not be as rare as the literature suggests, a lot of these patients are probably misdiagnosed and mislabeled¹³. We therefore recommend from the case presentation in this study that patients who fit the diagnostic criteria should be put on anti epilepsy therapy even in the absence of EEG as this investigation may not be available in most our resource limited settings.

Authors Contributions:

MK, WK and NM were responsible for clinical assessment of the patient and write-up of the study. DM was the consultant for the case and MS was responsible for the write-up of the manuscript and editorials. All authors contributed to write-up of this study and approved the final draft.

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Conflict of interests:

The authors declare no competing interests.

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