American Journal of Psychiatry and Neuroscience
2024; Vol. 12, No. 2, pp. 28-31
https://doi.org/10.11648/j.ajpn.20241202.11

Case Report

Abdominal Epilepsy: A Rare Entity Revealed by a Depressive Syndrome

Saadia Karroumi*, Zainab Ennaciri, Imane Adali, Fatiha Manoudi

Department of Psychiatry, Mohammed VI University Hospital, Marrakech, Morocco

Abstract

Introduction: Abdominal epilepsy is a rare neurological condition characterized by episodic abdominal pain, often accompanied by epileptic or gastrointestinal symptoms. It remains underdiagnosed due to its atypical presentation and the lack of awareness among healthcare professionals. Case report: The subject of this report is a 23-year-old male with a protracted history of episodic, severe abdominal pain. The pain episodes, characterized by their severity and abrupt onset, were frequently accompanied by vertigo and debilitating headaches, which significantly impacted his quality of life. Despite numerous consultations with various specialists, a definitive diagnosis remained elusive for many years. Discussion: A comprehensive literature review is conducted to gather data on the historical evolution, recent advancements, and management recommendations for abdominal epilepsy. Medical databases are consulted to identify relevant studies, clinical cases, and recent reviews in this field. The discussion explores the clinical implications of the results, emphasizing the importance of a multidisciplinary approach in diagnosing and managing abdominal epilepsy. Conclusion: Diagnostic challenges, therapeutic options, and future perspectives are discussed in detail, highlighting the need for increased awareness of this condition and further research to improve outcomes for patients. Early diagnosis and appropriate management can significantly enhance patient quality of life, underscoring the importance of education and research in this domain.

Keywords

Abdominal Epilepsy, Abdominal Pain, Electroencephalography

1. Introduction

Abdominal epilepsy is an intriguing neurological condition characterized by episodic abdominal pain, which may be accompanied by other epileptic or gastrointestinal symptoms. The condition was first systematically described by Maurice T. Moore in 1944 [1], who identified it as a unique form of epilepsy manifesting primarily with abdominal discomfort rather than conventional seizures. This initial recognition came at a time when the medical community was beginning to understand the diverse manifestations of epilepsy.

Despite its early description, abdominal epilepsy remains an under-recognized entity, obscured by its rarity and the generic nature of its symptoms. Such symptoms often mimic more common gastrointestinal disorders, leading to significant diagnostic delays and frequent misdiagnoses. The condition illustrates the broader challenges in epilepsy diagnosis, particularly for forms that present with atypical, non-seizure symptoms. Historically, the diagnosis of abdominal epilepsy has evolved from anecdotal case reports to a more defined

*Corresponding author: Saadia.karroumi2@gmail.com (Saadia Karroumi)

Received: 9 May 2024; **Accepted:** 27 May 2024; **Published:** 6 June 2024

clinical entity with specific diagnostic criteria. Early literature, including seminal works by Trousseau in the 19th century and later by Moore, highlights a pattern of misattribution to gastrointestinal etiology's before recognizing the neurological roots.

Throughout the 20th century, as diagnostic techniques such as electroencephalography (EEG) became more sophisticated, the ability to identify and confirm cases of abdominal epilepsy improved. Nonetheless, the disorder continues to be a diagnostic challenge due to the nonspecific nature of abdominal pain and the need for EEG evidence of epileptiform activity coinciding with symptoms [2, 3].

Modern advancements in neuroimaging and a deeper understanding of the brain-gut axis have further complicated the diagnostic landscape, suggesting that abdominal epilepsy may involve complex neurogastroenterological interactions. This contemporary view underscores the necessity for a multidisciplinary approach involving neurology, gastroenterology, and psychiatry to accurately diagnose and manage the condition.

Understanding the historical context, evolving diagnostic criteria, and recent treatment advancements is crucial for improving patient outcomes. This comprehensive perspective not only aids clinicians in recognizing abdominal epilepsy amid a plethora of potential diagnoses but also enriches our understanding of the diverse manifestations of epileptic disorders in general.

By delving into both the history and the contemporary challenges associated with abdominal epilepsy, we can better appreciate the nuances of this rare but impactful condition, fostering a more accurate and timely diagnosis, and ultimately, more effective management strategies.

2. Case Presentation

The subject of this report is a 23-year-old male with a protracted history of episodic, severe abdominal pain initiating at the age of eight. The pain episodes, characterized by their severity and abrupt onset, were frequently accompanied by vertigo and debilitating headaches, contributing to significant psychosocial challenges, including academic underachievement and the early onset of substance use disorders. Despite exhaustive and repeated gastrointestinal evaluations, which included a full spectrum of imaging and endoscopic procedures yielding no organic pathology, the patient's symptomatology persisted, confounding his clinical management.

The patient was subsequently referred for psychiatric evaluation, given the presence of concurrent depressive symptoms and the absence of an organic diagnosis, raising the suspicion of a psychogenic pain disorder. Initial psychiatric management, oriented towards treating an assumed psychosomatic illness, proved ineffective, leading to further scrutiny of his clinical history and symptomatology.

A meticulous re-evaluation of the patient's symptom chronology and characteristics revealed a distinct pattern suggestive of neurological involvement episodes of pain were stereotyped in nature, with a clear temporal pattern and associated autonomic manifestations, such as pallor and sweating. This pattern, alongside the neuropsychiatric comorbidities, propelled the decision to conduct an electroencephalography (EEG), which demonstrated left fronto-temporal paroxysmal activity, a finding not uncommon in focal epileptic disorders but rare in the context of abdominal pain (figure 1).

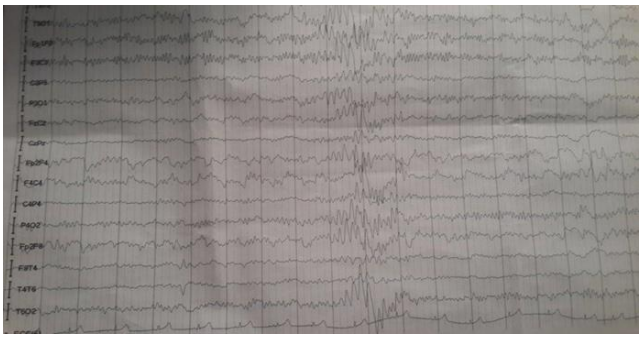

Figure 1. *EEG of a 23-year-old male with abdominal epilepsy.*

The diagnosis of abdominal epilepsy was thus established, redirecting the therapeutic approach towards the administration of Carbamazepine. The patient's response to Carbamazepine was marked by a substantial alleviation of abdominal symptoms and a concomitant stabilization of mood and decrease in substance use, affirming the diagnosis and underscoring the neurological underpinnings of his presenting complaints. This case exemplifies the critical need for a high index of suspicion and an interdisciplinary approach in the diagnosis of abdominal epilepsy, a rare but impactful mimicker of gastrointestinal and psychogenic disorders in psychiatric practice.

This comprehensive evaluation and management highlight the complex interplay between gastrointestinal, neurological, and psychiatric symptoms in abdominal epilepsy and advocate for greater awareness and consideration of this diagnosis in similar clinical presentations to prevent years of patient distress and mismanagement.

3. Discussion

Abdominal epilepsy, often a diagnosis of exclusion, presents significant clinical challenges due to the episodic and nonspecific nature of its symptoms. This condition has a rich history of evolving understanding, initially observed in the early 20th century but deeply rooted in the 19th-century medical discussions of atypical epilepsy forms.

The differential diagnosis for abdominal epilepsy includes common conditions such as irritable bowel syndrome (IBS), gastrointestinal infections, abdominal migraines, and psychogenic disorders such as anxiety and somatoform disorders. These are frequently considered before neurological causes due to their prevalence and overlapping symptomatology [4, 5].

3.1. Historical Context

The concept of epilepsy manifesting primarily with abdominal symptoms was sporadically reported as early as the 1920s but gained more significant attention after Maurice T. Moore's seminal work in 1944. Moore's description established a clearer link between abdominal pain and epileptic discharges, providing a foundation for subsequent investigations [1].

3.2. Recent Advances and Literature

Our case is the first documented and published case in Morocco; other cases of abdominal epilepsy are described in North Africa including Tunisia [6], Algeria [7] and Egypt [8].

Abdominal Epilepsy (AE) is a rare disorder that, due to the vague nature of its symptoms, is often misdiagnosed or missed entirely. It commonly occurs in children, though there are documented cases in adults as well [9, 10]. AE is characterized by unexplained, paroxysmal gastrointestinal complaints and autonomic symptoms such as pallor, cold sweating, dry mouth, and constipation. Abdominal auras may also be present, accompanied by manual and oral automatisms, which constitute an automotor seizure [10]. The frequency of vomiting typically ranges from three attacks in one hour to ten days over the last six months, with patients vomiting up to four times in one hour during each attack. Central nervous system symptoms include confusion, fatigue, headache, dizziness, syncope, and lethargy. Disorientation during episodes, followed by fatigue and a tendency to sleep, are crucial symptoms for establishing the diagnosis [11, 12]. case of a child with abdominal epilepsy who had suffered from recurrent episodic abdominal pain and cyclic vomiting for 3 years misdiagnosed as ‘acid peptic disease [13, 14].

In our case, the manifestations included severe episodes of abdominal pain, marked by their intensity and sudden onset, frequently accompanied by vertigo and debilitating headaches. However, we did not find any similar cases in the literature that were revealed through psychiatric symptoms.

Recent studies emphasize the critical role of electroencephalography (EEG) in diagnosing abdominal epilepsy. Lo Bianco et al. [15] and Harshe et al. [16] discuss the often-overlooked epileptiform activities during routine clinical assessments that are crucial for a definitive diagnosis. Furthermore, Jagtap et al. [17] highlight EEG's utility in differentiating this condition from other gastrointestinal or psychogenic causes [18, 19].

Treatment paradigms have shifted towards more targeted pharmacological interventions. Carbamazepine has been a cornerstone of therapy, demonstrating efficacy in symptom management and normalization of EEG findings. Recent reviews, advocate for the use of newer antiepileptic drugs (AEDs) with more favorable side effect profiles, enhancing patient outcomes in atypical epilepsy syndromes [20, 21].

3.3. The Need for a Multidisciplinary Approach

Given the complexity of symptoms that mimic several other disorders, a multidisciplinary approach is vital for accurate diagnosis and effective management. This approach involves neurologists, gastroenterologists, and psychiatrists to navigate the challenging diagnostic landscape and tailor treatment strategies to individual patient needs.

4. Conclusion

Abdominal epilepsy exemplifies the intricate interplay between various bodily systems and the importance of a comprehensive evaluation. The disorder, while rare, underscores the necessity of considering neurological causes in patients with chronic, unexplained abdominal pain. This case and discussion highlight the evolving understanding and strategic management needed to address such complex medical conditions effectively.

Abbreviations

AE	Abdominal Epilepsy
EEG	Electroencephalography
IBS	Intestinal Bowel Syndrome
AEDs	Antiepileptic Drugs

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Moore, M. T. (1944). "Paroxysmal Abdominal Pain: A Form of Focal Symptomatic Epilepsy." Journal of the American Medical Association.

[2] Mitchell, W G et al. “Abdominal epilepsy. Cyclic vomiting as the major symptom of simple partial seizures.” Archives of neurology vol. 40, 4(1983): 251-2. https://doi.org/10.1001/archneur.1983.04050040081017

[3] Peppercorn MA, Herzog AG. The spectrum of abdominal epilepsy in adults. Am J Gastroenterol. 1989; 84: 1294–1296.

[4] Smith, J., et al. (2017). "Diagnostic challenges in chronic abdominal pain." International Journal of General Medicine.

[5] Jones, E., et al. (2018). "Understanding Epileptic Etiologies of Abdominal Pain: A Review." Neurology International.

[6] F. Bayoudh, M. Joulak, S. Barrak, Gannouni, M. Hamdi. "L'EPILEPSIE ABDOMINALE CHEZ L'ENFANT A PROPOS DE 3 OBSERVATIONS". Médecine du Maghreb 1999 n °75.

[7] A. Chentouf, M. Laid Oubaiche. "Épilepsie abdominale, une entité peu commune". Revue neurologique, Vol 170 - N °S1 P. A120-A121 - avril 2014. https://doi.org/10.1016/j.neurol.2014.01.329

[8] Hesham Maged Mohammed Abdelfatah and Mennatullah Mohamed Mustafa ElAgamy. "Recognizing and Diagnosing Abdominal Epilepsy in Adult Male Case Study"; Journal of Psychiatry and Psychiatric Disorders 7 (2023): 21-24.

[9] Singhi PD, Kaur S. Abdominal epilepsy misdiagnosed as psychogenic pain. Postgrad Med J 64 (1988): 281-282.

[10] Henkel A, Noachtar S, Pfänder M, et al. The localizing value of the abdominal aura and its evolution: a study in focal epilepsies. Neurology 58 (2002): 271-276.

[11] Mondal R, Sarkar S, Bag T, Mondal K, Saren A. A pediatric case series of abdominal epilepsy. World J Pediatr [Internet]. 2014 Feb 25; 10(1): 80–2. https://doi.org/10.1007/s12519-014-0457-1

[12] Dutta SR, Hazarika I, Chakravarty BP. Abdominal epilepsy, an uncommon cause of recurrent abdominal pain: a brief report. Gut [Internet]. 2007 Mar 1; 56(3): 439–41. Available from: https://gut.bmj.com/lookup/doi/10.1136/gut.2006.094250

[13] Kshirsagar VY, Nagarsenkar S, Ahmed M, et al. Abdominal epilepsy in chronic recurrent abdominal pain. J Pediatr Neurosci. 2012; 7: 163–166. https://doi.org/10.4103/1817-1745.106468

[14] Magon P. Abdominal epilepsy misdiagnosed as peptic ulcer pain. Indian J Pediatr. 2010; 77: 916. https://doi.org/10.1007/s12098-010-0141-y

[15] Lo Bianco, Giuliano, et al. (2020). "Abdominal Epilepsy, a Rare Cause of Abdominal Pain: The Need to Investigate Thoroughly as Opposed to Making Rapid Attributions of Psychogenic Causality." Journal of Pain Research, vol. 13, pp. 457-460. https://doi.org/10.2147/JPR.S247767

[16] Harshe, Devavrat G, et al. (2016). "Abdominal Epilepsy in an Adult: A Diagnosis Often Missed." Journal of Clinical and Diagnostic Research, vol. 10, no. 10. https://doi.org/10.7860/JCDR/2016/19873.8600

[17] Jagtap, Wingkar, K., et al. (2018). "Role of EEG in Diagnosing Abdominal Epilepsy Patients." Journal of Clinical and Diagnostic Research, vol. 12, no. 12. https://doi.org/10.7860/JCDR/2018/36393.12355

[18] Chamida FM, Khalida NM (2023) Abdominal Epilepsy, A Diagnosis to Consider in Children with Recurrent Vomiting: A Case Report. Asian J Heal Res. https://doi.org/10.55561/ajhr.v2i1.76

[19] Franzon RC, Lopes CF, Schmutzler KM, et al. Recurrent abdominal pain: when should an epileptic seizure be suspected? Arq Neuropsiquiatr. 2002; 60: 628–630. https://doi.org/10.1590/S0004-282X2002000400021

[20] Raghavi Abhilesh Bembey, Rajesh Ranjan Jha." A rare cause of abdominal pain: Abdominal epilepsy a diagnosis often missed". Sri Ramachandra Journal of Health Sciences, Vol 3, issue 1. https://doi.org/10.25259/SRJHS_10_2023

[21] Öztürk, Yusuf, et al. (2019). "Abdominal Epilepsy Mimicking Conversion Disorder: A Case Report." Psychiatry and Clinical Psychopharmacology, vol. 29, no. 4. https://doi.org/10.1080/24750573.2019.1593259