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Case Report

Unveiling the Enigma: Abdominal Migraine in Adults - A Case Report and Discussion

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Abstract

Abdominal migraine (AM) remains a diagnostic challenge, particularly in adults, due to its rarity and diverse clinical presentation. This abstract presents a case report of a 37-year-old male with recurrent abdominal pain triggered by cold exposure, highlighting the complexity of AM in adults and expanding our understanding of potential precipitants. Despite negative investigations, the patient's unique trigger and family history of various medical conditions led to a diagnosis of AM, emphasizing the importance of clinical awareness and comprehensive evaluation. Discussion encompasses the pathophysiology, diagnosis, and management of AM, underscoring the need for individualized treatment approaches and further research into genetic and environmental factors influencing its manifestation. This case underscores the nuanced nature of AM and the imperative for interdisciplinary collaboration in its diagnosis and management.

Keywords: Abdominal Migraine; Vomiting; Hypertension

Introduction

Abdominal migraine is a rare, yet significant medical condition characterized by recurrent episodes of abdominal pain, often accompanied by nausea, vomiting, and other gastrointestinal symptoms. Despite its clinical relevance, abdominal migraine remains frequently underdiagnosed, primarily due to its resemblance to other gastrointestinal disorders. Herein, we present a compelling case of abdominal migraine in a 37-year-old male, shedding light on its diverse triggers and its diagnostic challenges, particularly in adult populations.

Case Presentation

A 37-year-old previously healthy male presented with a one-year history of recurrent abdominal pain occurring at intervals of 3-4 months. The pain was described as colicky and diffuse, lasting 4-6 hours in a crescendo pattern. It was associated with ileus, severe abdominal distension, loss of flatus, and 2-3 episodes of vomiting. The patient noted that these attacks were consistently triggered by exposure to cold environments, such as cold water in a swimming pool or spending time on a mountain. Notably, extreme hot baths were found to alleviate and shorten the duration of the attacks. Painkillers and over-the-counter medications provided no relief.

Past medical history

There was no significant past medical history except for a positive family history of various medical conditions, including diabetes, dyslipidemia, hypertension, mitral stenosis, rectal cancer, thyroid cancer, colon cancer, kidney failure, squamous cell carcinoma, factor 5 Leiden deficiency, carotid and aortic aneurysms and dissections, as well as strokes secondary to elevated hypertension.

Investigations

- Colonoscopy: Negative.
- Ultrasound Doppler for carotid arteries: Negative.
- MRI angiography for abdomen: Negative.
- Blood tests including CBC, LFTs, thyroid function tests, glucose, calprotectin, and factor 5 Leiden: Negative. MTHFR C 677T was not present, and MTHFR A 1298 C heterozygous was present, but not considered specific to the patient's condition.

Diagnosis

Based on the clinical presentation, negative investigations, and family history, the patient was diagnosed with abdominal migraine.

The avoidance of cold environments successfully prevented further episodes over the past year.

Discussion

Abdominal Migraine (AM) is an enigmatic disorder predominantly recognized in the pediatric population but can also occur in adults. It is characterized by episodic bouts of severe abdominal pain that cannot be attributed to other medical conditions. This pain is typically midline, periumbilical, or diffuse, lacking a focal point, and is often accompanied by nausea, vomiting, anorexia, and pallor, mirroring the symptomatology of migraine headaches without the head pain. Among children, previous studies have reported prevalence rates of abdominal migraine ranging from 5% to 9% [3]. However, in adults, the diagnosis of abdominal migraine is very uncommon [1].

The pathophysiology of AM remains unclear, but it is thought to involve the brain-gut axis, a complex signaling pathway between the gastrointestinal system and the central nervous system, which regulates digestive processes. Disruptions or dysregulations within this axis are believed to contribute to the manifestation of AM. Moreover, the trigeminovascular system, known for its role in migraine headaches, may also play a major role in abdominal migraine [4]. The pathogenesis of abdominal migraine involves specific changes to the gut-brain axis, vascular dysregulation, central nervous system alterations, gastric motility and permeability, and genetic factors in both childhood and adulthood [2]. Other predisposing factors include environmental triggers and abnormalities in gut sensitivity.

AM falls under the umbrella of functional gastrointestinal disorders, a category that acknowledges the physiological symptoms in the absence of anatomical or biochemical abnormalities. The diagnosis of AM is a diagnosis of exclusion. It is primarily clinical, based on symptom presentation and the exclusion of other gastrointestinal, metabolic, and neurological disorders. Abdominal migraine should be considered a possible source of incurable abdominal pain in adults when accompanied by a complete gastrointestinal workup with normal results [5]. The episodic nature of the pain, its association with other migrainous features such as nausea and photophobia, and the absence of symptoms between episodes are key diagnostic hallmarks.

While similar in children and adults, the prevalence and clinical manifestations of AM in the latter remain poorly documented, contributing to diagnostic challenges and delayed treatment.

The management of abdominal migraine in adults typically involves a multidisciplinary approach, incorporating pharmacological and non-pharmacological interventions. Acutely, episodes may be treated with antiemetics, triptans, and analgesics to alleviate pain and associated symptoms. Tricyclic antidepressants, beta-blockers, or anticonvulsants can be used as prophylactic therapy and may be indicated for individuals with frequent or severe attacks. Lifestyle modifications, stress management techniques, and dietary adjustments can also play a role in preventing and managing abdominal migraine episodes. With such a wide array of medications available, physicians should be able to successfully tailor treatment to minimize side effects for their patients [7].

The presented case of a 37-year-old male with recurrent abdominal pain triggered by cold exposure offers a unique perspective on AM in adults, diverging from the typical presentation. Unlike the common triggers identified, this case highlights environmental factors as a significant precipitant, suggesting a broader spectrum of triggers in adult AM not widely recognized. Furthermore, the effective alleviation of symptoms through heat exposure emphasizes the potential for non-pharmacological interventions tailored to individual triggers.

Notably, the case also portrays the challenges in diagnosing AM in adults, mirroring the literature's acknowledgment of the condition's underdiagnosis and the necessity for heightened clinical awareness. The patient's extensive family history of various medical conditions, while not directly linked to migraines, may indicate a complex interplay of genetic and environmental factors contributing to AM's pathogenesis, a facet that remains underexplored in current research.

Conclusion

In conclusion, the case presented underscores the clinical complexity and diagnostic challenges associated with abdominal migraine (AM) in adults. The rarity of the condition, coupled with its diverse triggers and variable clinical manifestations, necessitates a high index of suspicion among healthcare providers. The unique trigger of cold exposure in the presented case expands our understanding of potential precipitants beyond the conventional spectrum, highlighting the need for individualized management approaches.

Furthermore, the successful mitigation of symptoms through heat exposure underscores the potential efficacy of non-pharmacological interventions tailored to specific triggers, offering patients a broader range of treatment options. However, the case also underscores the importance of considering AM in the differential diagnosis of recurrent abdominal pain, particularly in the absence of anatomical or biochemical abnormalities.

Moreover, the patient's extensive family history of various medical conditions underscores the potential genetic and environmental factors contributing to AM's pathogenesis, warranting further exploration in future research endeavors. Overall, this case serves as a poignant reminder of the nuanced nature of AM in adults and the imperative for continued vigilance and interdisciplinary collaboration in its diagnosis and management.

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