〈Case Report〉

A case of severe abdominal pain during panic disorder: diagnosis and management of adult abdominal migraine.

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ABSTRACT　Abdominal migraine is classified as a primary headache disorder under the periodic syndromes associated with migraines, according to the International Classification of Headache Disorders, 3rd Edition. Cases in adults are rare and often go unrecognized. Due to the lack of abnormal physical examination findings, particularly in patients with coexisting psychiatric disorders, abdominal migraines are frequently misdiagnosed as psychogenic abdominal pain or somatic complaints, increasing the likelihood of diagnostic errors. We present the case of a male patient in his 50s who was referred to our department with severe abdominal pain initially attributed to psychogenic causes related to his panic disorder. However, the patient was ultimately diagnosed with abdominal migraine in adulthood and showed notable improvement with triptan therapy. He had been receiving treatment for panic disorder in our department since year X-13 and had frequently visited the emergency department with complaints of chest pain, although no underlying causative condition was identified. Around July X-2, the patient began experiencing abdominal pain, but no abnormalities were detected. On March 7, X, he experienced severe abdominal pain that impaired his ability to walk, necessitating emergency transportation and admission to a nearby general hospital for a comprehensive evaluation. Despite extensive testing, no severe abnormalities were identified, and psychogenic pain was considered the most likely diagnosis. Consequently, on March 9, the patient was transferred to our department for further evaluation. On the fifth day of hospitalization, he experienced another episode of severe abdominal pain. Although diclofenac suppositories were administered, they provided only limited relief. Further investigations during his stay revealed no specific cause for the abdominal pain, suggesting abdominal migraine as a probable differential diagnosis. On the eighth day of hospitalization, during a recurrence of abdominal pain, the patient was treated with triptans, resulting in remarkable pain relief.

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Key words：Abdominal migraine，Adult，Triptan，Panic disorder，Psychogenic abdominal pain

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INTRODUCTION

Panic disorders are characterized by sudden and intense feelings of fear, anxiety, palpitations, shortness of breath, and sweating, with chest pain being a common symptom. According to the DSM-5, panic attacks are often associated with chest pain or discomfort[1]. A relationship between panic disorder and abdominal pain has also been suggested, particularly in connection with irritable bowel syndrome (IBS). Patients with IBS exhibit a high rate of panic disorder comorbidities, especially when abdominal pain occurs during panic attacks[2]. Furthermore, abdominal pain accompanying panic attacks may share a mechanism similar to that of chest pain.

In this study, we report a case of a patient with panic disorder who experienced severe abdominal pain unrelated to panic attacks. The patient was referred for the treatment of psychogenic pain due to the unknown cause of the symptoms.

Patient's case

Demographics: Male, in his 50s, hospitalized

Chief complaint: pain radiating from the left lower abdomen to both thighs.

Medical history

Conditions: Hypertension, chronic constipation, cough, and asthma

Notable Absences: no apparent history of migraine headaches

Lifestyle: Does not consume any alcohol, smokes 5 cigarettes per day

Family history

No relevant family medical history was reported.

History of Presenting Complaint

As a high school student (around X-35), the patient began experiencing frequent episodes of hyperventilation and heart palpitations, prompting visits to Psychiatric Hospital A. Despite consulting multiple psychiatric institutions over time, his symptoms showed no improvement. On January 8, X-13, the patient presented to our department and was diagnosed with panic disorder due to symptoms such as "worsening without reason" and "sudden pounding in the chest." The patient attended our outpatient clinic regularly; however, frequent anxiety attacks and severe anticipatory anxiety made it difficult for him to leave home alone, leading to a largely reclusive lifestyle. He lived at home with his wife and two children (an older son and a younger daughter), while his eldest daughter had already moved out and was independent. Since retiring at X-21, he has been unemployed and receiving public assistance.

The patient frequently complained of chest pain and visited the emergency department due to anxiety. Despite undergoing repeated examinations by a cardiologist, no abnormalities were identified to explain the chest pain. He was prescribed duloxetine (20 mg), valproic acid (300 mg), and levomepromazine (50 mg).

On March 3, X-2, the patient visited the emergency room of C General Hospital due to lower abdominal pain. Blood tests and other evaluations were conducted, but no definitive abnormalities were found. On March 7 of the same year, the patient developed severe abdominal pain that impaired mobility, leading to emergency transport to D General Hospital, where he was admitted. On March 9, X-2, the patient was transferred to our department and admitted on the same day.

Presentation on admission

The patient was brought to our hospital on a stretcher due to severe abdominal pain that impaired his ability to walk. Both the patient and his wife reported that this pain was different from his previous episodes. By the time of admission, the pain had subsided, and the anguished expression

observed at the previous hospital was no longer present. However, the patient expressed significant concern about the possibility of experiencing another severe episode of abdominal pain.

Abdominal findings: Intestinal peristalsis was slightly reduced. Spontaneous pain and tenderness were observed, primarily in the lower abdomen; however, no muscular defense was noted. No cases of diarrhea or other gastrointestinal symptoms were reported.

Blood tests: white blood cell count 5,983/μL, C-Reactive Protein (CRP) 0.25 mg/dL (no inflammatory findings), normal IgG and complement levels, negative rheumatoid factor, and low Total protein (TP) 6.4 g/dL, albumin (Alb) 3.9 g/dL.

Urinalysis: findings were unremarkable, including colour

Faecal occult blood: Negative

ECG and chest x-ray: no apparent abnormalities were noted by the previous physician.

Post-hospitalization course

The patient's abdominal pain gradually subsided after admission to our department, and he was able to walk independently by the third day. During this time, additional diagnostic tests, including contrast-enhanced CT of the chest and abdomen, MRI of the head, and MRI of the pelvis, were conducted. However, none revealed abnormalities that could explain the pain.

On the fifth day of hospitalization, the patient experienced a recurrence of severe abdominal pain. During the examination, he did not exhibit signs of anxiety attacks or significant physical distress. A diclofenac suppository was administered for pain relief, but its analgesic effect was minimal. While expressing strong anxiety about being discharged without a definitive diagnosis, the patient also expressed a desire to leave the hospital to attend his second daughter's junior high school graduation ceremony.

Table 1. Diagnostic criteria

A. At least five attacks of abdominal pain fulfilling criteria B-D
B. Pain with at least two of the following three characteristics:
1. midline, periumbilical, or poorly localized.
2. dull or "just sore" quality
3. Moderate or severe intensity
C. At least two of the following four associated symptoms or signs
1. anorexia
2. nausea
3. vomiting
4. pallor
D. Attacks last 2-72 hours when untreated or unsuccessfully treated.
E. Complete freedom from symptoms between attacks.
F. Not attributed to another disorder1.

ICHD-3: International Classification of Headache Disorders, Third Edition.

At our conference, it was generally agreed that in the absence of an identifiable organic cause, the patient should be guided to accept his abdominal pain and proceed with discharge planning. Further investigation into abdominal migraine was conducted, and the patient met the diagnostic criteria (Table 1). On the 8th day of admission, when the patient experienced abdominal pain with a Numerical Rating Scale (NRS) score of 9, sumatriptan 50 mg was administered. This intervention resulted in a significant improvement in pain. With the aim of managing his pain through outpatient care, the patient requested discharge and was discharged on Day 13.

DISCUSSION

Abdominal migraine is classified as a primary headache disorder within the migraine-related periodic syndromes, according to the International Classification of Headache Disorders, 3rd Edition (ICHD-3). It predominantly affects children and is characterized by recurrent episodes of moderate-to-severe midline abdominal pain of unknown etiology. These episodes are typically accompanied by vasomotor symptoms, nausea, and vomiting, with a duration of 2 to 72 hours, while patients remain asymptomatic during the interictal phase. Notably,

headaches do not occur during these abdominal attacks. Previously referred to as "pediatric cyclic vomiting syndrome," the 2018 revision of ICHD-3 acknowledged that abdominal migraines "may occur in adults."[3, 4)]

There are few case reports of abdominal migraine in adults, and the diagnostic criteria specific to this population remain unclear[5)]. Moreover, the disease concept itself is not well understood, leading to misdiagnosis and treatment under alternative conditions such as abdominal pain of unknown origin, irritable bowel syndrome, or acute gastritis[6)]. In a case report by Gianfranco *et al.*, a definitive diagnosis of abdominal migraine was only established after at least 15 clinical visits spanning seven years. This highlights the potential for abdominal migraine to be an overlooked cause of acute abdominal illness and underscores the risk of missed or delayed diagnosis[7)].

Although there is no evidence-based treatment specifically for abdominal migraines in adults, anecdotal evidence suggests that non-opioid analgesics, antiemetics, and triptans are effective in managing acute attacks. These treatments, as recommended for migraines, can be initiated promptly after the onset of pain[8)]. Additionally, diagnostic treatment using acute migraine medications has been proposed as a method for differentiating abdominal migraine from other causes of abdominal pain[5)].

In this case, the patient had sought evaluation at multiple medical institutions over two years for persistent abdominal pain, but the cause remained unidentified and was suspected to be either psychogenic abdominal pain or pain associated with anxiety attacks. Sumatriptan, an intranasal and injectable medication often used when oral administration is not feasible, was chosen for treatment and proved remarkably effective in managing his abdominal pain episodes. Following discharge, the patient continued to report anticipatory anxiety and occasional chest pain. However, abdominal pain episodes were well controlled using sumatriptan. Additionally, the patient's valproic acid prescribed for psychiatric symptoms was continued the 300 mg/day and adjusted after discharge as a prophylactic measure for abdominal pain prevention.

CONCLUSION

We present a case of abdominal pain in a patient receiving treatment for panic disorder. Initially presumed to be psychogenic abdominal pain without an identifiable organic cause, the condition was ultimately diagnosed and successfully treated as abdominal migraine. This case highlights the importance of differentiating physical and organic diseases from psychogenic complaints, especially in patients with psychiatric disorders. Pain complaints without a clear cause are frequently observed in such patients and are often dismissed as purely psychogenic. We hope this paper raises awareness about abdominal migraines in adult patients, helping to prevent their neglect.

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