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CLINICAL VIGNETTE

More than a Gut Feeling: An Integrative East-West Approach to Managing Severe Abdominal Pain Associated with Irritable Bowel Syndrome

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Introduction

Irritable bowel syndrome (IBS) is a functional disorder characterized by abdominal pain and altered bowel movements (e.g., diarrhea, constipation, or both) without a well-defined pathophysiological cause.¹ Abdominal pain negatively impacts health-related quality of life independently of other symptoms in patients with IBS.² Unfortunately, many available pharmacological therapies are ineffective at mitigating acute pain attacks.³ Lack of effective therapy creates an unmet need that often drives patients to seek alternative medical treatment. We present a case of severe abdominal pain associated with IBS that was refractory to medical therapy and effectively treated using an integrative non-pharmacologic approach.

Case Presentation

A 48-year-old man with hypertension, type 2 diabetes, and gastro-esophageal reflux disease was referred to our center for treatment of chronic abdominal pain that had acutely worsened in the past month. For the past eight years, he had experienced intermittent episodes of severe abdominal pain, accompanied by non-bloody diarrhea. These episodes were not associated with any specific triggers. He had tried eliminating lactose and gluten from his diet, but these dietary modifications failed to provide relief. With the exception of occasional reflux symptoms, he had no other gastrointestinal complaints and remaining review of systems was negative. His medications included lisinopril-hydrochlorothiazide, benazepril, metformin, clidinium-chlordiazepoxide, esomeprazole, citalopram, and oxycodone/acetaminophen, which he routinely used to control his pain.

His family history was notable for inflammatory bowel disease. He was previously diagnosed with ulcerative colitis based on findings of patchy colitis from a colonoscopy in 2008 and started on mesalamine. However, a few years later he was evaluated at our institution for abdominal pain and diarrhea and found to have a negative fecal calprotectin test, as well as no evidence of active colitis on biopsies from a repeat colonoscopy. His symptoms were attributed to IBS, but he was maintained on mesalamine.

Several weeks prior to his referral to our center, the abdominal pain escalated in intensity, frequency, and extent. The patient increased his oxycodone dose and sought acupuncture at a

private clinic for three visits, neither of which provided significant relief. The severe, refractory nature of his pain eventually prompted him to seek care in the emergency room where he was later admitted to the inpatient service for further testing and treatment. During his hospitalization, he required intravenous hydromorphone for pain control. C-reactive protein was 1.0 mg/L and findings from computed tomography of the abdomen and pelvis were unremarkable. The patient was discharged and advised to follow up with his outpatient gastroenterologist who referred him to our center.

We performed an integrative assessment, including a physical examination, which was notable for tender points in several distinct areas along the rectus abdominis muscles and positive Carnett's sign. The remainder of his physical exam was unremarkable.

Treatment was initiated using a combination of acupuncture and trigger point injections. First, we identified myofascial trigger points by palpating tender areas and taut muscle bands along the rectus abdominis muscles. After cleaning these areas with an alcohol swab, we inserted a 25-gauge needle into the active trigger points along the abdominal wall musculature. We injected 0.2mL of 1% lidocaine at each site before removing the needle and applying pressure for several seconds. Following the trigger point injections, acupuncture was performed by inserting 34-gauge needles bilaterally into Large Intestine 4, Liver 3, Spleen 6, Stomach 36, Stomach 44, and Spleen 9, as well as into Pericardium 6 on the left side and Spleen 4 on the right side. The needles were retained for 25 minutes and then removed.

The patient reported an 80% reduction in symptoms after this initial treatment as well as decreasing his oxycodone use from 30mg every six hours to taking a single 10mg tablet in the prior week. Following the second treatment one week later, he experienced complete resolution of his symptoms and was able to discontinue use of all opiates along with clidinium-chlordiazepoxide without recurrence of his abdominal pain. At his follow-up appointment with his gastroenterologist two weeks later, he was advised to stop mesalamine and tolerated his usual diet without aggravation of his symptoms.

Discussion

Up to 20% of adults in North America have symptoms consistent with IBS.⁴ Although IBS has a variable presentation with often multiple symptoms, abdominal pain is the main driver of healthcare utilization, patient-reported symptom severity, and impaired quality of life, as illustrated by this case.^{3,5} Pain symptoms in IBS patients are often attributed to visceral hypersensitivity as they typically exhibit lower response thresholds to rectal distension and other visceral stimuli.^{6,7} Because altered central nervous system processing is thought to be partly responsible for IBS pain, centrally acting agents (e.g., antidepressants and narcotics) are commonly prescribed along with antispasmodic medications to treat IBS.^{8,9} Unfortunately, these pharmacological options are often ineffective at controlling pain. Narcotics in particular can also have numerous adverse effects, including nausea, vomiting, constipation, reduced intestinal motility, gastroparesis, and narcotic bowel syndrome, which is characterized by recurrent abdominal pain that worsens with continued use of narcotics.⁸ The high frequency of opioid use in IBS patients highlights the need for safer, more effective methods of pain control.³

Acupuncture has recently gained traction as an alternative to medications in the treatment of IBS. In a systematic review of comparative effectiveness trials, IBS patients reported greater benefits from acupuncture than from pharmacological therapies.¹⁰ Other studies demonstrated that needling specific acupuncture points (e.g., Pericardium 6 and/or Stomach 36) increased the threshold of rectal sensation of gas in patients with IBS, suggesting that acupuncture can attenuate visceral hypersensitivity.^{11,12}

Although these studies support the use of acupuncture in patients with IBS, acupuncture alone may not be effective at completely controlling pain symptoms. A possible explanation may be pain symptoms attributed to IBS are originating from the abdominal wall itself, rather than exclusively from visceral sources. Indeed, chronic abdominal wall pain (CAWP) commonly due to entrapment of the anterior cutaneous nerve or myofascial dysfunction is an important cause of abdominal pain that is frequently overlooked and misdiagnosed as a functional gastrointestinal disorder.^{13,14} Carnett's sign, which is characterized by accentuated localized pain with contraction of abdominal wall muscles, is a useful way to distinguish abdominal wall pain from visceral pain.^{13,14} In patients suffering from moderate to severe CAWP, trigger point injections using anesthetic or steroids are considered first line treatment and have been shown in numerous studies to provide substantial, sustained pain relief.¹³

It is not uncommon for CAWP to be associated with IBS. As revealed in one study, CAWP was identified in about one half of these IBS patients.¹⁴ As one theory suggests, the abdominal wall muscles are intricately linked to the visceral organs by an extensive connective tissue network.¹⁵ This network is thought to provide structural support as well as function as a signaling matrix. Pathological processes of the gastrointestinal

organs can negatively impact the abdominal muscles through this connective tissue network, resulting in myofascial dysfunction characterized by active trigger points.¹⁶ Due to these connections, it is important to search for underlying CAWP when managing IBS because the latter may not be fully treated without addressing the former.

Conclusion

This patient with IBS and CAWP was treated with an integrative approach that combined acupuncture with trigger point injections to produce synergistic effects resulting in successful, long-term pain control. The analgesic effect provided by this approach has the potential to reduce utilization of narcotics, patient visits to specialists and the emergency room, and in turn, the economic burden of IBS.^{17,18} Although the mechanisms of this therapeutic approach need to be further studied, the combination of acupuncture and trigger point injections should be considered when abdominal trigger points are identified in IBS patients presenting with severe abdominal pain.

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