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Title

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Journal

Proceedings of UCLA Health, 26(1)

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Publication Date

2022-05-05

CLINICAL VIGNETTE

East-West Medicine Approach to Functional Abdominal Pain

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Case

A 17-year-old male without significant prior medical history presented with periumbilical abdominal pain. The pain started two years prior but had worsened over the past year. It was described as an occasional sharp pain with associated loss of appetite and mild abdominal bloating. The patient had lost five pounds in the last six months. He denied nausea, vomiting, constipation, diarrhea, or blood in stools. There were no clear dietary triggers or temporal association with eating, but he did report some anxiety that he considered mild and manageable. He denied being depressed.

The patient had seen a gastroenterologist who treated him for helicobacter pylori, but the pain persisted. An upper endoscopy was visually normal, but the biopsy came back with evidence of gastritis but negative for helicobacter pylori. Hepatobiliary iminodiacetic acid (HIDA) scan and computerized tomography (CT) scan of the abdomen and pelvis were normal. Stool, urine, and blood tests, including lipase, transglutaminase antibodies, IgA, and inflammatory markers were also normal. He tried hyoscyamine and dicycloverine without relief. He continued omeprazole and was started on amitriptyline 25mg daily for functional abdominal pain. He declined a colonoscopy and was then referred to our clinic.

Upon presentation after six weeks of amitriptyline, his pain had become less severe, but still intermittent described as cramping and sharp. He reported eating a healthy diet with an assortment of fruits, vegetables, and smoothies. He exercised regularly, including walking, push-ups, and sit-ups. His sleep quality was good. He denied any history of abdominal surgery, emotional trauma, physical abuse, alcohol, caffeine, or drug use.

On physical exam, vital signs were normal. BMI was 18.7 kg/m². The abdomen was soft with generalized, mild tenderness to palpation but without rebound, guarding, appreciable masses, surgical scars, or organomegaly. Acupuncture was initiated, and self-care recommendations were provided, including drinking mint tea regularly and participating in mind-body exercises, such as yoga and mindfulness practices.

On his third follow up visit 6 weeks later, the patient noted significant improvement in abdominal pain without bloating and expanded his diet, gaining ten pounds. He was able to titrate off the omeprazole. He reported practicing meditation for thirty minutes daily and feeling the best he has felt in two years. At his ninth follow up visit, four months after his initial

consult with us, he reported doing extremely well while being completely off amitriptyline. He enjoyed performing yoga daily while being busy with summer school, starting a new job, and planning to start college in the fall.

Discussion

The prevalence of abdominal pain in the community is much higher than seen in clinical practice.¹ For those who visit a health provider, it is important to remember that almost 90% of children presenting with abdominal pain to primary care have no discernible organic pathology.² Thus, functional abdominal pain disorders (FAPD), also called pain-predominant functional gastrointestinal disorders (FGID), are the most common cause of chronic abdominal pain in children and adolescents.

Characterization and organization of FAPD and FGID have been updated with the Rome IV classification. A FAPD may be diagnosed in adolescents who have chronic abdominal pain for greater than two months, a normal physical exam, stool samples negative for occult blood, and no red flags, including involuntary weight loss, difficulty with swallowing, significant vomiting, severe diarrhea, bowel changes, unexplained fever, or urinary symptoms. Abdominal pain with these associated symptoms but without an identifiable organic cause may be sub-categorized into functional dyspepsia, irritable bowel syndrome, abdominal migraine, and functional abdominal pain - not otherwise specified.³

In terms of pathophysiology, FAPDs are complex disorders that seem to result from disruption of the functional, and perhaps more subtly, the structural integrity of one or more elements of the microbiota-gut-brain-axis.⁴ The intricate and multifaceted interplay that underlie these conditions cannot be understated and may best be modeled utilizing a biopsychosocial framework. Critical components to this model are the concepts of visceral hypersensitivity and central hypervigilance, which are influenced by a combination of genetic and environmental factors.

The goal in management of FAPDs is improving quality of life and returning to normal function as complete elimination of pain may not be an alternate for many patients. Treating FAPDs is challenging because of heterogenous clinical subtypes and complex pathophysiology.⁵ Thus, management is individualized according to a patient's behavior, triggers, and symptoms,

and the treatment approach typically involves a therapeutic relationship, coping strategies, dietary modifications, and medications if necessary.

Due to its plausible underlying effect on gastrointestinal function in terms of gastrointestinal motility, visceral sensitivity, and the brain-gut axis, acupuncture is gaining more popularity in the treatment of FAPDs.^{6,7} Local acupuncture has also been shown to be effective in reducing clinical pain in those with a myofascial component to their abdominal pain syndrome.⁸ In a randomized controlled trial of pediatric patients with both IBS and functional abdominal pain, peppermint was found to be effective due to its spasmolytic effect on the gastrointestinal tract.^{9,10} As for coping, it is theorized that mindfulness-based treatments may modulate affective pain processing and catastrophic appraisals of gastrointestinal sensations.¹¹ Yoga therapy is a form of mindfulness practice that has been demonstrated to reduce pain intensity and frequency in pediatric patients with abdominal pain-related FGIDs.¹²

Patients with FAPDs commonly present in the outpatient setting. This patient was successfully treated with an East-West approach utilizing acupuncture, yoga, and dietary therapy. While the exact mechanisms underlying the therapeutic effect of these interventions need to further elucidated, clinicians should be aware of their use as potentially efficacious therapies in patients with FAPDs.

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