

CASE REPORT

A Case Report of Improvement in Crohn's Disease–related Symptoms Following Participation in a Comprehensive Mind-Body Program

关于参加综合身心方案后克罗恩病相关症状改善的病例报告

Informe de un caso de mejora de los síntomas relacionados con la enfermedad de Crohn tras la participación en un programa integral de mente-cuerpo

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ABSTRACT

Stress is widely believed to play a role in the development and pathogenesis of inflammatory bowel disease (IBD), and several studies of mind-body programs have suggested benefits in this patient population. Here we describe a case report of a young man with a flare in Crohn's disease–related symptoms that improved in response to a comprehensive, multimodal, mind-body program and the development of a novel IBD treatment center that incorporates mind-body approaches, nutrition, and other modalities to provide more holistic and patient-centered care for individuals with IBD.

摘要

广泛认为，压力对炎症性肠病（Inflammatory Bowel Disease, IBD）的进展和发病机理有影响，并且多项身心方案研究已表明在本患者人群中的好处。我们在此介绍克罗恩病症状突然发作的一名年轻男性的病例报告，他对综合多模态身心方案和新型 IBD 治疗中心的出现反应良好，症状改善。上述治疗中心融合身心方法、营养及其他方式，为罹患 IBD 的人们提供更加全面、以患者为本的护理。

SINOPSIS

Se cree ampliamente que el estrés juega un papel en el desarrollo y

patogenia de la enfermedad intestinal inflamatoria (EII) y varios estudios de programas mente-cuerpo han sugerido beneficios en esta población de pacientes. Aquí describimos un informe de un caso de un hombre joven con reagudización de los síntomas relacionados con la enfermedad de Crohn que mejoraron en respuesta a un programa integral, multimodal de mente-cuerpo y el desarrollo de un novedoso centro de tratamiento para la EII que incorpora enfoques mente-cuerpo, nutrición y otras modalidades que proporcionan más atención psicosomática y centrada en el paciente para los individuos con EII.

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INTRODUCTION

The central nervous system and gastrointestinal system are intimately connected, and stress is known to play a role in many gastrointestinal diseases, including inflammatory bowel disease (IBD).¹ Mind-body approaches such as meditation, guided imagery, and other relaxation techniques can reduce autonomic arousal and stress hormone-related signaling by eliciting

the relaxation response.² Pilot studies of several different mind-body interventions have suggested that these techniques can reduce both psychological and physical symptoms in this patient population.³⁻⁶ We present a case report of a young man with high levels of stress and refractory Crohn's disease–related symptoms that resolved with the addition of a comprehensive mind-body medicine approach. We discuss the rationale for the development of a novel IBD treatment center that integrates mind-body and other approaches with conventional therapy to enhance care for patients with IBD.

PRESENTING CONCERNS

A 27-year-old male with a past medical history of Crohn's disease, diagnosed at age 19, presented to the clinic with a 6-month history of increased frequency of bowel movements. Initially, the patient noted having 10 bowel movements daily. Three months prior to presentation, he transitioned to a diet low in refined carbohydrates and grains. The frequency of bowel movements decreased. He had associated abdominal

pain and fatigue, and occasional streaks of blood in his stool but no melena or hematochezia. He also reported intermittent anxiety, having difficulty both falling and staying asleep with a number of middle-of-the-night awakenings. His review of systems was otherwise negative. His gastrointestinal symptoms and fatigue fluctuated with his mood, and they were worse during periods of increased negative stress. His current medications included mesalamine, adalimumab, and Vitamin B₁₂ injections.

The patient's best friend died when he was 17. At the time, it was very difficult and a major stressor for him, and he felt it contributed to the development of his Crohn's disease. His current physical activity consisted of routine walking and bicycling for 15 minutes twice per week. When he decreased the carbohydrate content of his diet, his bowel movements decreased from 10 per day to 5 per day. A timeline of events is presented in Figure 1. He had previously lived in Colorado for 5 years and enjoyed skiing in the winter. He was single and had enjoyed a very rich social life. In the past year, he moved in with his parents in New Hampshire and became a student in a helicopter flight school.

CLINICAL FINDINGS

On examination, his vital signs were stable and his physical exam was unremarkable. The abdominal exam was without any tenderness or guarding with normoactive bowel sounds. Both anxiety and depression, as measured by the SCL-90-R, were above the normal range.

DIAGNOSTIC FOCUS AND ASSESSMENT

In our clinic, we ask patients extensively about their stress history. Stress signaling pathways are known to impair prefrontal cortex structure and function, activating the amygdala and other subcortical structures, in a "bottom-up" (as opposed to "top-down") response.⁷ Individuals who are exposed to a significant stress as a child or adolescent while the brain is still developing can become hyper-responders to stress, with vulnerable

brains and potential metabolic consequences.⁸

The patient was felt to have a hyperactive stress response physiology contributing to his symptoms, in part related to his friend's death and ongoing stressors (eg, school). He was referred to participate in the Stress Management and Resiliency Training-Relaxation Response Resiliency Program (SMART-3RP)⁹ offered by the clinic. This program has been shown to decrease a variety of different stress-related symptoms.^{10,11}

As part of the program, patients are asked to track the frequency and intensity of their top 3 most bothersome symptoms. On pre-program evaluation, the urge to stool was nearly constant for this patient, greater than 10 times per day; intensity was very burdensome, 9/10, and he was observing frank blood twice per week in his stools, which were loose. He had abdominal pain several times per day, 5/10 in intensity, and he was experiencing fatigue with a 4/10 intensity.

THERAPEUTIC FOCUS AND ASSESSMENT

The SMART-3RP is an 8-week, 16-hour multimodal mind-body program that incorporates elements of cognitive behavioral therapy, positive psychology, and lifestyle modification. Participants are taught a variety of different approaches to elicit the relaxation response, a physiological state characterized by decreased arousal of the sympathetic nervous system that can be elicited using a variety of techniques, including breath awareness, guided imagery, meditation, and yoga.^{2,9} They learn to build awareness of stress and its negative effects. The program also promotes social connectedness and the development of healthy lifestyle behaviors. The first program session reviews the science of mind-body medicine and its relationship to certain attitudes and behaviors. Sessions 2 to 8 of the program feature about an hour of relaxation response elicitation through a variety of different methods, and another hour focuses on skill building in cognitive reappraisal. We introduce a series of strategies: building expression of positive emotions, decreasing judgmental awareness, enhancing functional expression of empathy, and

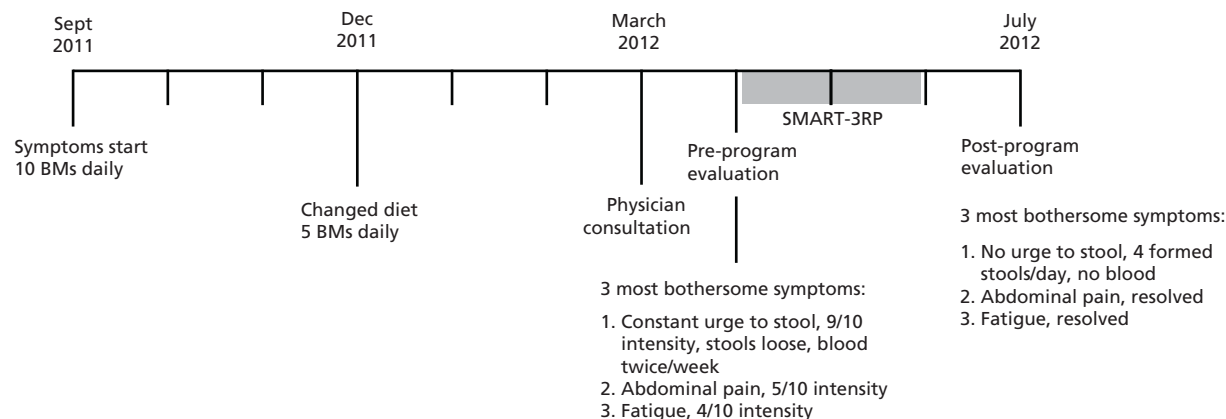


Figure 1 Timeline of events.

Abbreviations: BM, bowel movement; SMART-3RP: Stress Management and Resiliency Training-Relaxation Resiliency Program.

IBD CENTER OF THE FUTURE – Patient-centered Care

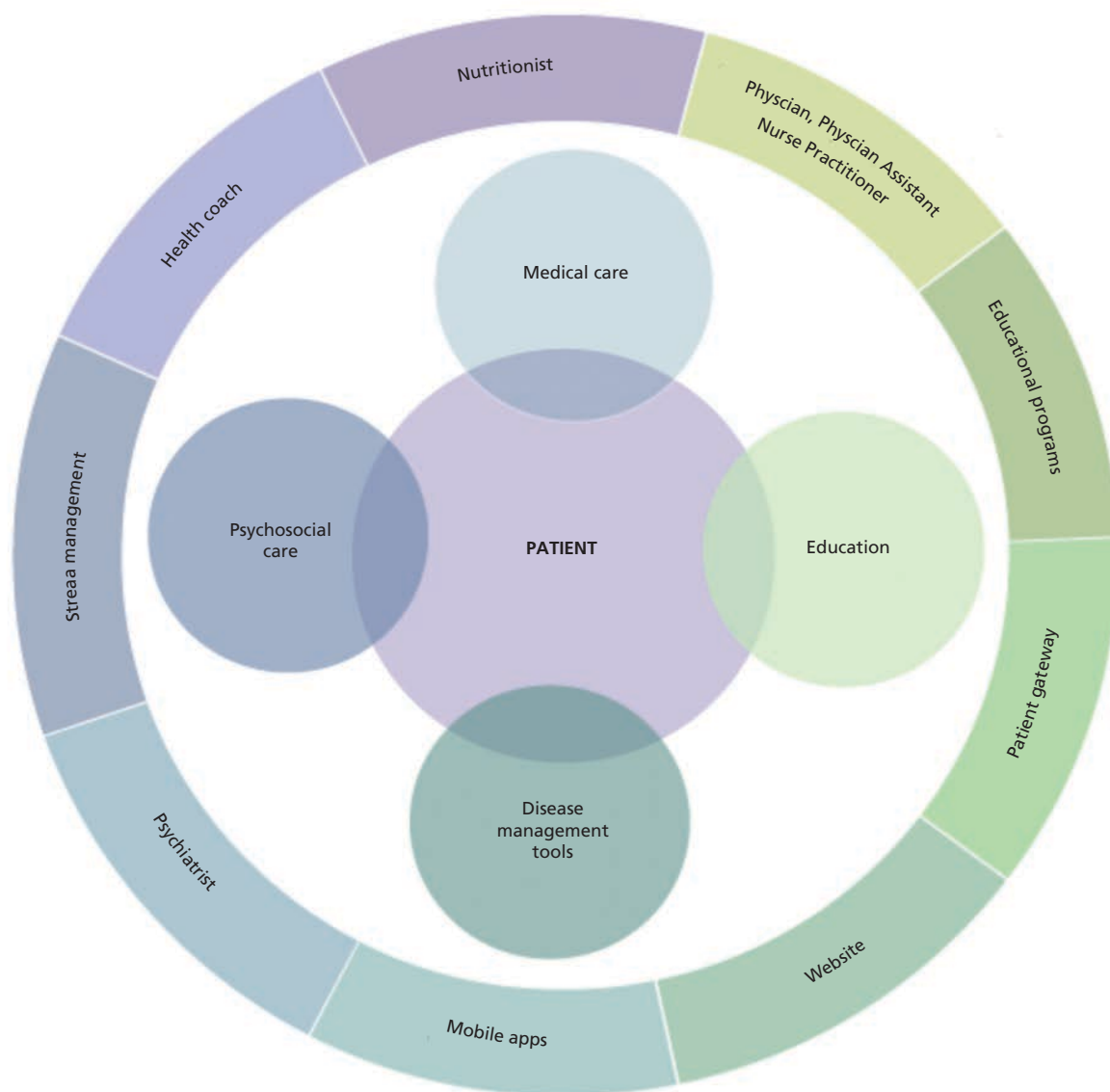


Figure 2 The CIRCLE Program, Dr Korzenik's model of care for patients with inflammatory bowel disease.

practicing creative expression and humor.

We create goals around healthy lifestyle behaviors, including restorative sleep. In our patient's case, he was having difficulty both falling and staying asleep. Sleep deprivation is associated with activation of the sympathetic nervous system, increased proinflammatory cytokine production, and profound immunological effects.¹² Regular aerobic activity positively affects neuroplasticity and cognition and has enhances cellular antioxidant mechanisms.^{13,14} We encourage our patients to consume a healthy diet with a number of plant-based antioxidants and to limit saturated fat and simple carbohydrates. We also focus on social support as a means of buffering the stress response. That involves not only tangible emotional support but also developing pro-social behavior and social capital.

FOLLOW-UP AND OUTCOMES

The patient attended all 8 program sessions, the midpoint evaluation, and a discharge visit with the program clinician approximately 4 weeks after the end of the program. At his discharge visit, he noted significant improvement in or complete resolution of his 3 most bothersome symptoms. He was having 4 formed bowel movements per day. They were predictable without urgency, and he no longer noted streaks of blood. In addition, he was no longer experiencing any abdominal pain or sense of fatigue. Moreover, both anxiety and depression had returned to the normal range. There had been no changes in his medications since his initial assessment.

DISCUSSION

It is widely recognized that the brain and gastroin-

testinal systems communicate and that stress may play a role in IBD flares.¹ Mind-body approaches have been shown to decrease the stress response and be clinically useful in managing a variety of stress-related symptoms and health conditions.^{10,11,15} While multiple mechanisms are involved, gene expression analyses have demonstrated that mind-body techniques can decrease expression of pro-inflammatory genes such as NF- κ B.¹⁶ Recent data from an uncontrolled pilot study of the SMART-3RP suggest specific benefits in patients with IBD such as reductions in anxiety and pain catastrophizing and improvements in health-related quality of life.³ Moreover, gene expression analysis in these patients demonstrated reduced expression of genes involved in inflammation (eg, VEGF-C, NK- κ B), cell growth and proliferation, and oxidative stress, as well as genes previously implicated in the pathogenesis of IBD.

Based upon similar patient experiences with the SMART-3RP, Dr Korzenik developed a model of care for IBD patients called the CIRCLE (Comprehensive IBD Resource for Care, quality of Life, and Education) Program, which he envisions as the IBD center of the future (Figure 2). Based upon an individual's values and choices, care is based on a continuous healing relationship, through a multidisciplinary team (physician, social worker, nutritionist, and a nurse practitioner with expertise in mind-body medicine). This program offers expert medical care while also addressing psychosocial needs, behavior change, and engaging patients in the management of their illness. This model aims to demonstrate improved health outcomes and reduced healthcare utilization.

PATIENT PERSPECTIVE

Things started to change for me when I found the relaxation response in this program, and, just so I can calm myself and get through the day and my Crohn's started getting better, and I feel better. The mind-body connection. . . I really believe in it. You can feel it when you believe in it, you just know it, and you can see the difference in yourself, your day-to-day life, just the way you go about things, you're a happier person, and things become easier. Right now I'm doing really well, so that's pretty good.

INFORMED CONSENT

The patient provided written consent to have his story featured in the documentary *The Connection: Mind Your Body*¹⁷ and shared in other venues. The above quote is taken from the film.

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