



# Cannabidiol in the Treatment of Irritable Bowel Syndrome

Rubens Pitliuk<sup>1</sup> Tatyanny Paula Pinto da Costa Santos Fucci<sup>1</sup>

<sup>1</sup> Medical Doctor, Private Practice, São Paulo, SP, Brazil

J Coloproctol 2021;41(4):455–456.

Address for correspondence Rubens Pitliuk, MD, Rua Japiação, 145, Zip Code: 054455-060 - São Paulo, SP, Brazil (e-mail: rubensp@einstein.br).

Dear Editor,

Irritable bowel syndrome (IBS) is a functional bowel disorder with abdominal pain or discomfort associated with periods of abdominal bloating, pain, diarrhea, and constipation.<sup>1</sup>

As the first treatment option, nonpharmacological measures are presented, namely: cognitive-behavioral therapy, physical exercise, nutritional changes, inclusion of probiotics and soluble fiber in the diet, including FODMAP-restricted (oligosaccharides, disaccharides, monosaccharides, and fermentable polyols) diet. FODMAP are short-chain carbohydrates, little absorbed in the bowel, where they are osmotically active and quickly fermented, aggravating the symptoms in case of IBS.<sup>2,3</sup>

In the pharmacological area, they include antispasmodic, laxative, antidiarrheal drugs, tricyclic antidepressants and serotonin reuptake inhibitors, antibiotics, analgesics, and anti-inflammatory drugs.<sup>4</sup>

Often, patients with IBS show psychological symptoms or psychiatric disorders.<sup>5</sup>

Cannabidiol (CBD) and its interactive profile in the endocannabinoid system may be a new option for treatment of IBS.

The strongest evidence of clinical deficiency of endocannabinoid (CED) is migraine, fibromyalgia, and irritable bowel syndrome (IBS).<sup>6</sup>

Endogenous cannabinoids (endocannabinoids) have shown a regulatory role in the inflammation and the permeability of the mucosa of the gastrointestinal tract. All components of the endocannabinoid system can be found in the gastrointestinal tract: cannabinoid CB1 receptors mainly in enteric cholinergic neurons, where they inhibit neuronal hyperactivity, thus relieving strong intestinal contractions and secretions. They can also be found in the enterocytes and

are probably involved in the regulation of mucosa permeability and wound healing. Unlike CB1, CB2 receptors are rarely found in the enteric neurons.<sup>7</sup>

Activation of cannabinoid receptors (CB1) and (CB2) reduces motility, limits the secretion, and decreases hypersensitivity in the bowel.<sup>8</sup>

We report two cases of long-lasting improvement of IBS with cannabidiol and without the traditional drugs used before.

A female patient, 45 years old: serious form of IBS, depression, joint pain, excessive daytime sleepiness (EDS).

Previous treatments: maximum tolerated doses of gabapentin, pregabalin, pinaverium, mebeverine, nortriptyline, amitriptyline, bupropion, desvenlafaxine, vortioxetine, duloxetine, methylfolate, methylphenidate, fluoxetine, modafinil, quetiapine, sulpiride, levosulpiride, etc.

Even with sulpiride 200 mg/day, pregabalin 100 mg/day and modafinil 400 mg/day, she had only a slight improvement of IBS and EDS.

She started treatment with Cannabidiol at 0.3% THC at the beginning of 2020. Eighteen months later, she has very few episodes of diarrhea and almost no joint pain. Current medication: 25 mg CBD at 0.3% THC. She reports that “she hasn't felt so well for years.”

A female patient, 22 years old: IBS serious form, the patient reported ‘going out wearing diapers sometimes’, anxiety and hyperhidrosis.

Previous treatments: clomipramine, sertraline, quetiapine, clonazepam, venlafaxine, zolpidem, duloxetine, pinaverium, mebeverine, antiallergics, antibiotics, and corticosteroids.

She started treatment with CBD at 0.3% THC at the beginning of 2020. She suspended duloxetine, quetiapine, zolpidem, and clonazepam.

received

August 5, 2021

accepted after revision

September 6, 2021

DOI <https://doi.org/>

10.1055/s-0041-1739168.

ISSN 2237-9363.

© 2021. Sociedade Brasileira de Coloproctologia. All rights reserved.

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Thieme Revinter Publicações Ltda., Rua do Matoso 170, Rio de Janeiro, RJ, CEP 20270-135, Brazil

At the end of 2020, she was taking CBD only at a dose of 25 mg 3 times daily. She did not have any manifestation of IBS anymore, except on a few days in the premenstrual period.

Patients with complex sets of symptoms tend to receive complex, expensive, hard treatments, where drug interactions and side effects are probable.

These two cases showed almost complete and long-lasting improvement of IBS even without the previous polymedication.

We hope they serve as incentive for research with a higher number of patients and non-naturalistic design.

#### Conflict of Interests

The authors have no conflict of interests to declare.

#### References

- 1 World Gastroenterology Organisation Global Guidelines. Irritable bowel syndrome: a Global Perspective 2015. Accessed on September 15, 2020 at: <https://www.worldgastroenterology.org/guidelines/global-guidelines/irritable-bowel-syndrome-ibs/irritable-bowel-syndrome-ibs-english>
- 2 Saha L. Irritable bowel syndrome: pathogenesis, diagnosis, treatment, and evidence-based medicine. *World J Gastroenterol* 2014; 20(22):6759–6773
- 3 Oliveira PDTM, Reis JEF, Reis MAS, Ferreira SMS, Candelária ALA. A dieta com restrição de FODMAP reduz os sintomas no síndrome do intestino irritável? Uma revisão baseada na evidência. *Rev Port Med Geral Fam* 2020;36(02):126–134
- 4 Fernandes MCS, Castro MDS, Lima YMS, et al. Síndrome do intestino irritável: diagnóstico e tratamento. *Revista Eletrônica Acervo Saúde* 2020;12(05):e2964
- 5 Surdea-Blaga T, Baban A, Nedelcu L, Dumitrascu DL. Psychological Interventions for Irritable Bowel Syndrome. *J Gastrointest Liver Dis* 2016;25(03):359–366. Doi: 10.15403/jgld.2014.1121.253.ibs
- 6 Russo EB. Clinical endocannabinoid deficiency reconsidered: current research supports the theory in migraine, fibromyalgia, irritable bowel, and other treatment-resistant syndromes. *Cannabis Cannabinoid Res* 2016;1(01):154–165
- 7 Kienzl M, Storr M, Schicho R. Cannabinoids and Opioids in the Treatment of Inflammatory Bowel Diseases. *Clin Transl Gastroenterol* 2020;11(01):e00120. Doi: 10.14309/ctg.0000000000000120
- 8 Storr MA, Yüce B, Andrews CN, Sharkey KA. The role of the endocannabinoid system in the pathophysiology and treatment of irritable bowel syndrome. *Neurogastroenterol Motil* 2008;20(08):857–868